GOVERNMENT OF NORTHERN IRELAND

HIGHER EDUCATION
in Northern Ireland

Report of the Committee appointed by
the Minister of Finance

Presented to Parliament by Command of
His Excellency the Governor of Northern Ireland
February 1965

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WARRANT OF APPOINTMENT

I, THE RIGHT HONOURABLE JOHN LAWSON ORMROD ANDREWS, D.L., M.P., Minister of Finance for Northern Ireland, hereby appoint:—

Major J. A. Glen, C.B.E.
R. B. Henderson, Esq.
Sir Willis Jackson
Sir John Lockwood
W. H. Mol, Esq.
Miss A. R. Murray
Dr. Denis Rebbeck, C.B.E., D.L.
Sir Peter Venables

to be a Committee to:—

Review the facilities for university and higher technical education in Northern Ireland having regard to the Report of the Robbins Committee, and to make recommendations:

and I further appoint Sir John Lockwood to be Chairman of the Committee and W. T. Ewing, Esq., and Miss Z. I. Davies to be Secretary and Assistant Secretary respectively of the Committee.

JOHN L. O. ANDREWS,
Minister of Finance.

Stormont.
20*th November*, 1963.

The estimated cost of the preparation of this Report (including the expenses of the witnesses and members of the Committee) is £3,380 6s. 4d., of which £1,750 0s. 0d. represents the estimated cost of printing and publication. This sum does not include the cost of salaries of permanent officials whose time was only partially occupied with the work of the Committee.

CORRESPONDENCE BETWEEN THE CHAIRMAN AND THE MINISTER OF FINANCE

BIRKBECK COLLEGE,
(University of London),
MALET STREET,
W.C.1.

27th November, 1964.

MY DEAR MINISTER,

I have the honour to submit to you the Report of my Committee on university and higher education in Northern Ireland.

This is the first occasion on which a comprehensive survey of arrangements for higher education in Northern Ireland has been undertaken, and we have counted it a privilege to assume so responsible a task. We have attempted to evolve a rational and co-ordinated modern system in which related fields of study can find their proper concentration, and we hope our proposals, which are closely interlinked in order to create a coherent and viable educational structure, will gain general acceptance. In the interdependent system which we recommend technology plays a major university role. We attach great weight also to our suggestions for the reorganisation of higher non-university and further education in a composite college which will fittingly complement the provision of university education.

You will recall that, shortly after our appointment by your predecessor in office, the question was raised whether our terms of reference included matters concerning the training of teachers. We took the view that matters such as the status of the training colleges were inherent in our terms of reference, and we have reported on them. In doing so we took account of investigations already made by the Advisory Council for Education.

We began our survey with the understanding that we should be expected to consider the possible need for a second university or other institution or institutions of higher education; and that, while in relation to such a need we should make general observations based on academic, social and other related factors, we should not recommend any specific site or location, since this would be a matter for decision by the Government assisted by advice from the University Grants Committee. We subsequently found that it was not possible satisfactorily to deal with the academic problems of a new university outside the context of general location, as contrasted with the details of siting, and we were informed through our assessors on behalf of the Government that we were free to recommend a location if we so desired.

We are grateful to all those who submitted memoranda or discussed with us topics of special importance to our inquiry.

We wish to record our sincere thanks to our assessors, Mr. R. H. Kidd of the Ministry of Finance, Dr. A. T. Park, Statistician of the Cabinet Office and Registrar General, and Mr. J. Scott of the Ministry of Education. Their wise advice, given frankly and impartially in response to our every request, has been invaluable.

Lastly, we express the deep debt of gratitude which we owe to our indefatigable Secretary, Mr. W. T. Ewing of the Ministry of Education, to our Assistant Secretary, Miss Z. I. Davies of the Ministry of Finance, to the staff of other Government departments, and to the typists and others who have worked under prolonged heavy pressure to assist us in the early completion of the Report.

Yours sincerely,

JOHN LOCKWOOD.

THE RT. HON. IVAN NEILL, M.P.,
Minister of Finance,
Parliament Buildings,
Stormont,
Belfast, 4.

STORMONT,
BELFAST, 4.
1*st December*, 1964.

DEAR SIR JOHN,

Thank you for your letter of 27th November and for the Report of your Committee enclosed with it. May I, both on my own behalf and on behalf of the Government of Northern Ireland, express to you and the members of your Committee our very sincere appreciation of the tremendous amount of work which obviously has gone into the preparation of the Report. I am particularly conscious of the debt which we owe you all when I think of your many other commitments.

I shall now pass the Report to my colleague, the Minister of Education, to whose department has been transferred responsibility for university grants and whose task it will be to formulate proposals for future policy in the light of your Committee's advice.

Very sincerely,

IVAN NEILL.

SIR JOHN LOCKWOOD,
Birkbeck College,
(University of London),
Malet Street,
London, W.C.1.

SUMMARY OF MAIN RECOMMENDATIONS*

1. A total of between 12,000 and 13,000 full-time university places should be provided in Northern Ireland by 1980. (Para. 40)

2. About 3,000 places should be provided by 1980 for intending non-graduate teachers. (Para. 41)

3. At least 4,000 full-time places in further education should be provided by 1980 for students taking higher education courses. (Para. 42)

4. Queen's University should reconsider the content of undergraduate courses to reduce overlap with school work to a minimum and to make it normal for able students to embark directly on honours courses immediately upon admission. (Para. 139)

5. Specialisation should be provided for mainly through postgraduate courses for which greater provision should be made, and in specialised fields more graduates should be encouraged to undertake postgraduate study and research at a university other than that from which they graduated. (Paras. 143–144, 178)

6. Consideration should be given to the foundation of a Government Research Establishment associated with Queen's University and directed towards research for industrial development. (Para. 144)

7. Interchange among students within the United Kingdom should be encouraged at university level. (Para. 146)

8. About 10 per cent of university students should be from overseas. (Para. 149)

9. The number of full-time students at Queen's University by 1980 should not significantly exceed the 7,000 proposed by the University. Not more than 6,000 of these should be undergraduates. (Para. 159)

10. Between 2,000 and 2,500 of the full-time student enrolment should be in applied science and technology and the balance of other disciplines might be apportioned roughly as follows:

Arts	1,400
Social Sciences	400
Law	250
Medicine	800
Science	1,800

(Paras. 161, 178)

11. Queen's University should become fully responsible for all degree work in applied science and technology. (Para. 167)

12. The University should be encouraged to proceed with its provisional plan for numbers substantially as proposed up to 1970. (Para. 179)

13. The Joint Authority for Higher Technological Studies should be abolished at the earliest appropriate opportunity. (Para. 174)

14. The recently negotiated similar arrangement for degree studies in architecture should be abandoned. (Para. 175)

15. An adequate area in Belfast should be designated as a university precinct and, in so far as powers of compulsory acquisition are not available under existing legislation, they should be sought quickly and exercised where necessary as the University's long-term development proceeds. (Para. 182)

---

* Recommendations summarised in this list should be read in the light of the fuller explanation given in the appropriate paragraphs of the Report.

16. There should be a second university with an enrolment by 1980 of between 5,000 and 6,000 full-time students directed mainly towards:
    (*a*) the biological and related pure and applied sciences;
    (*b*) environmental and social sciences;
    (*c*) the humanities;
    (*d*) teacher education. (Paras. 188–192)

17. The second university should have one or more research institutes associated with it, possibly Government sponsored but at least Government supported. (Para. 144)

18. A medical school in association with the second university should not be established initially. (Para. 200)

19. There is no immediate justification for a veterinary school, but if a school should later prove justifiable it should be associated with the second university. (Para. 203)

20. A faculty or school of agriculture should be established as an integral part of the second university and the existing arrangement between the Ministry of Agriculture and Queen's University should then be terminated. (Para. 209)

21. The second university should be located in the Coleraine area. (Para. 221)

22. A suitable site should be presented by the sponsoring local authorities; they should also establish an endowment fund to which industrial and commercial interests should be invited to contribute. (Para. 224)

23. An Academic Planning Board should be constituted without delay. (Para. 225)

24. Priority should be given to the provision of facilities for teacher education and to the requirements of agriculture. (Para. 220)

25. The first students taking degree courses should be admitted in October, 1968. (Para. 220)

26. There should be a progressive reduction in Government grants to Magee University College and, if possible, the premises should later be used for non-university courses of varying types and duration. The new university should, as far as possible, take over such of the Magee University College staff as wish to transfer and provision should be made for any of the more senior members of the staff who may prefer retirement. (Paras. 226–228)

27. The preparation of men and women for the teaching service should be regarded as teacher education rather than as teacher training. (Paras. 10, 230)

28. An Education Centre, controlled and operated through a body established by the governing body of the new university in association with the Ministry of Education, should be established within the framework of the new university. Both degree and diploma courses should be provided. (Para. 237)

29. Conventional degrees (B.A. or B.Sc.) should be awarded rather than the B.Ed. degree recommended by the Robbins Committee. (Para. 239)

30. A Diploma in Education should be awarded to non-degree students. (Para. 243)

31. The Education Centre should have a wide variety of functions. (Paras. 237, 244)

32. The nature and duration of the probationary period for teachers should be reconsidered. (Para. 245)

33. The Education Centre should endeavour to provide fully satisfactory courses in religious education for all sections of the community. (Para. 246)

34. Queen's University should move towards an assumption of responsibility for producing teachers for all kinds of schools and there should be a full partnership, in an association with the Ministry of Education, between Queen's University and the Belfast training colleges. (Paras. 247, 251)

35. The management of Stranmillis College should be entrusted to a fully responsible governing body containing strong Queen's University representation and with the Principal and some of the staff in full membership. (Paras. 248–249)

36. The governing bodies of the voluntary training colleges should also accept a measure of University and staff representation. (Para. 248)

37. The arrangements for training college courses, particularly the four-year course, should be revised. (Paras. 242, 252)

38. The general training colleges should be renamed " Colleges of Education ". (Para. 254)

39. Arrangements with colleges in England and Wales for the full-time professional training of technical teachers should be continued. (Para. 255)

40. Local " in-service " training arrangements for technical teachers should also be devised. (Paras. 256, 278)

41. Arrangements should be made for offering a measure of professional training to part-time technical teachers. (Para. 257)

42. Professional training facilities should be available for newly-appointed junior university teachers and for others willing to take advantage of them. (Para. 258)

43. The Education Centre should assist in providing training facilities for teachers in the agricultural colleges. (Para. 258)

44. The Academic Planning Board of the new university should consider whether emergency measures should be taken to secure the establishment of the Education Centre in temporary premises by 1966 or 1967. (Para. 260)

45. There should be a well co-ordinated organisation of technical education comprising a Regional College of Technology in Belfast and an associated group of area and local colleges. (Para. 266)

46. There should be a significant increase in sandwich and block release courses, particularly the former, in a wide and diversified range of studies. (Paras. 269–270)

47. Queen's University should reconsider the conditions under which students with Ordinary or Higher National Diplomas and Certificates may be admitted to degree courses, and should give credit within degree courses to able students with Higher National Diplomas or Certificates of high standard. (Para. 272)

48. After the successful completion of appropriate courses at area colleges students should be afforded every facility for transfer to the Regional College of Technology, and the individual student should have adequate financial support. (Para. 273)

49. The Regional College of Technology together with the Belfast Colleges of Domestic Science and Art and the proposed Colleges of Commerce, Catering, Music and Drama, should form a combined " Ulster College " under a single Board of Governors which would include the Principal of the College and some of the staff of the component parts of the College as full members. The Board should have significant powers and the College should be financed by direct Government grants. (Paras. 275–276)

50. The teacher education functions in domestic science and art of the Board of Governors of the Ulster College should be supervised by a special committee of the Board which would contain representation from Queen's University and the Ministry of Education. (Para. 278)

51. For the time being at least there should be no change in the management or organisation of the Ulster College of Physical Education. (Para. 253)

52. The constituent colleges of the Ulster College and the area colleges should become focal centres for cultural activities. (Para. 279)

53. An adequate precinct should be designated for the Ulster College and sites within the precinct should be acquired initially for the Regional College of Technology and probably also for the proposed Colleges of Commerce, Catering, Music and Drama. (Para. 280)

54. The Ministry of Education should consider the setting up of a single body representative of both universities and of other institutions of higher education and schools to secure co-operation within higher education and to absorb the functions of existing bodies such as the Council of Queen's University and Schools and the Committee which directs the examinations for the Northern Ireland General Certificate of Education. (Para. 286)

55. Queen's University and, upon its establishment, the new university should either join or form an effective working association with the Universities Central Council for Admissions. (Para. 287)

56. Residential facilities for students should be provided as extensively and as quickly as possible. In default of adequate residential facilities, reading and other rooms should, as an expedient, be opened for private study both in and out of term for prolonged hours. (Para. 293)

57. Student grants from whatever public source should not be subject to employment conditions. (Para. 294)

58. Facilities for part-time degree study should be extended. (Para. 295)

59. University extra-mural activities should be expanded. (Para. 297)

60. Urgent attention should be given to exploring the potentialities of television as an educational medium. (Paras. 298–299)

61. Queen's University should consider establishing a school of communications. (Para. 300)

62. Adequate facilities for musical and theatrical productions should be associated with the development of Queen's University and the Ulster College. (Para. 301)

63. There should be a substantial development of public library services. (Para. 302)

64. More entrants to medical auxiliary occupations should be trained in Northern Ireland. (Para. 304)

65. Loughry Agricultural College should engage in applied research and in other higher degree work in association with the second university. (Para. 305)

66. The Government should arrange for the establishment of machinery to co-ordinate the work of institutions of higher education. (Para. 307)

67. Higher education should be subject to periodic reviews, such as the present review, and permanent machinery should be established to service them. (Para. 308)

68. An adequate statistical service should be established. (Para. 311)

69. All major local authorities should make significant annual grants to Queen's University, to the new university, and to the Ulster College. (Para. 321)

70. Both Queen's University and the new university should assume a substantial measure of general social responsibility towards non-degree full-time and part-time further education work. (Paras. 324–326)

CHAPTER I

INTRODUCTION

1. We were appointed on 20th November, 1963, by the Right Honourable J. L. O. Andrews, M.P., then Minister of Finance for Northern Ireland, "to review the facilities for university and higher technical education in Northern Ireland, having regard to the report of the Robbins Committee, and to make recommendations".* We held 18 meetings comprising 77 sessions in both Belfast and London and visited the institutions listed on Page 118. In response to our request for written evidence we received submissions from the individuals and organisations listed on Pages 116 and 117. We took oral evidence where we thought oral evidence desirable in supplementation of written evidence and we held many informal discussions with persons whose experience and views we thought would assist us. We also consulted officers of several Northern Ireland Government departments. Departments supplied us with statistical and background material which we thought to be necessary for our work.

2. Our terms of reference required us to take as our starting point the Report of the Robbins Committee, whose terms of reference were "to review the pattern of full-time higher education in Great Britain and in the light of national needs and resources to advise Her Majesty's Government on what principles its long-term development should be based: in particular, to advise, in the light of these principles, whether there should be any changes in that pattern, whether any new types of institution are desirable and whether any modifications should be made in the present arrangements for planning and co-ordinating the development of the various types of institution". We were therefore enabled to begin our enquiry with general principles and background information which otherwise we might have had to establish. But our appointment made it clear that we were not expected necessarily to follow the recommendations of the Robbins Committee in points of detail. The different economic, social and educational structure of Northern Ireland warranted a separate consideration of the position and a more detailed study of the problems of higher education in Northern Ireland. The Robbins Committee had, for example, to deal with a pattern represented by many institutions of higher education, whereas we had rather to look at only a small number on a much more individual basis.

3. The Robbins Report concentrated on "the universities in Great Britain and those colleges, within the purview of the Ministry of Education and the Scottish Education Department, that provide courses for the education and training of teachers or systematic courses of further education beyond the Advanced level of the General Certificate of Education or beyond the Ordinary National Certificate or its equivalent". We decided that, although the main area of our enquiry should be work going beyond the Advanced level of the General Certificate of Education or beyond the Ordinary National

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* Report of the Committee on Higher Education in Great Britain under the Chairmanship of Professor Lord Robbins. Cmnd. 2154. London H.M.S.O., 1963.

Certificate or its equivalent where the scientific or technological content is taken significantly forward, we should not exclude courses beginning at the Ordinary level of the General Certificate of Education but going appreciably beyond it. Furthermore, unlike the Robbins Committee, we have not been precluded by our terms of reference from having regard to part-time courses.

4. Some time before our appointment the Advisory Council for Education had been invited by the Minister of Education " to examine the position in regard to the demand and supply of teachers for all kinds of grant-aided schools: to consider measures to meet the prospective demand and the conditions under which teaching recognition is accorded: and to make recommendations ". We, therefore, confined ourselves in general to the organisation of facilities for the training of teachers. Before completing our Report we had the advantage of seeing the reports of the Advisory Council on the teacher training questions which had been referred to it.* We also established liaison with the Committee under the Chairmanship of Sir Charles Morris which had been appointed by the Minister of Education in March, 1963 " to consider the basis on which Adult Education in Northern Ireland could most usefully be organised, developed and financed in the future: and to make recommendations ".†

5. Our survey covers mainly the Queen's University of Belfast, Magee University College, Londonderry, the training colleges, and work of higher education standard at technical institutions, particularly the Belfast College of Technology and Loughry Agricultural College. In the knowledge that effect could not be given to our recommendations in the absence of adequate support facilities we interested ourselves also, as far as seemed relevant, in work in schools and institutions of further education leading directly to higher education.

6. The Robbins Committee carried out a comprehensive survey of higher education in England, Scotland and Wales, and in the course of its deliberations studied the systems of higher education in several foreign countries. A summary of the recommendations relevant to our Report is included in Appendix I. We have accepted the main aims and principles of the Robbins Committee‡ and we have based our proposals for the future development of higher education in Northern Ireland on them. Where appropriate we have given cross-references to the Robbins Report and, as far as is practicable, we have used the same terminology and have modelled our statistical material on the tables in it.

7. Criticisms of the Robbins Report have to some extent cancelled one another. It has, for example, been said:

> that instead of considering what the demand for places in higher education is likely to be the Committee should have asked what supply of different kinds of highly educated persons would be required to meet the nation's needs;
>
> that the estimates of the demand for places in higher education are too low;

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* " Recognition of Teachers "; " Supply of Teachers ". Reports of the Advisory Council for Education in Northern Ireland. Cmd. 471. Belfast H.M.S.O., 1964.

† Report of the Committee on Adult Education. Cmd. 473. Belfast H.M.S.O., 1964.

‡ Appendix I, 2.

that the anxiety of the Report to give the maximum opportunity to the more academically able might cause the needs of the less able to be overlooked ;

that the Report is too much concerned with preparation for working life and insufficiently concerned with learning for its own sake ;

that the recommendations will have a deleterious effect on the character and standards of universities ;

that the Report multiplies the traditional types of higher education without sufficient examination of their merits ; and

that the Report has created a wave of enthusiasm for higher education which may ebb when the financial implications are fully realised.

We have taken account of these in making evaluations for our own purposes. We have also been conscious of some inadequacy in the treatment by the Robbins Committee of certain problems of technical education and of the obligations of industry in assisting its development.

8. In formulating our proposals we have paid attention to two factors in particular. First, as in Great Britain, the system of higher education in Northern Ireland did not evolve in conformity with a consciously devised and inter-related pattern or framework. Institutions came into being in response to particular needs at particular points in time. Our survey has presented an opportunity for a measure of rationalisation. While it has been our concern to make recommendations which will satisfy immediate needs, we have also been concerned that our recommendations should give higher education in Northern Ireland a clear sense of purpose and direction and should provide a basis for continuing logical development. Secondly, we have endeavoured to balance the needs of the community against the needs of the individual student. Northern Ireland as a community is both a unit with its own needs and also part of the United Kingdom. The right of the individual student to an opportunity to receive education to the highest level he is capable of reaching coincides with the community interest, but the content of the education should not be determined arbitrarily by the vagaries of student choice. There must be a measure of compromise between intelligent planning on a community basis and reasonable freedom of career and subject selection by the individual student.

9. While we think that our recommendations will contribute to an improvement of the economic situation within Northern Ireland by providing a direct feed-back of the benefits of increased higher education into the economy, we have assumed that many young people, upon completion of their formal education, will continue to wish to leave Northern Ireland either temporarily or permanently ; and that others from other parts of the United Kingdom will come to Northern Ireland to study and to work away from their home environment no less readily than to parts of England, Scotland or Wales. A degree of movement of this kind within any community is healthy and should be encouraged. The increasing availability of higher education and the growing ease of communication and travel should help Northern Ireland more effectively to keep pace with progress and development elsewhere.

10. In our Report we first examine the general background and give a factual account of existing facilities for higher education. This is accompanied by a summary of the development plans of the several institutions providing these facilities together with references to other related evidence. We then examine and advise on the university situation and on teacher training, which we prefer to think of as teacher education. Then we discuss the remaining aspects of higher technical education and the support facilities required for higher education generally. Next we consider a number of important but less substantial matters which bear on some of our main themes. Finally, we attempt to cost our proposals in the broadest of estimates in order to give some indication of both the capital outlay and the future running costs involved in their acceptance. The Appendices contain detailed information related to our recommendations which we think should be readily available for reference.

11. We wish to thank those who gave us evidence or who helped us in other less formal ways. We are grateful to an inter-departmental Working Party which was set up in February, 1963, and whose report assembled in advance of our first meeting much of the background information on which we based our enquiries. We have decided not to publish any of the written evidence received; we considered it carefully and recall appropriate items at relevant stages throughout the Report and in the Appendices. Some of the matters brought forward in evidence, as well as the detailed working out of some of our proposals, will require continued discussion by other bodies at a later stage.

CHAPTER II

THE ECONOMIC BACKGROUND OF NORTHERN IRELAND

12. Northern Ireland has much to offer in the world of to-day. It has an expanding population, a core of skilled and experienced labour with an innate aptitude for craftsmanship, and ample unskilled labour ready and quick to learn ; a good educational system ; plenty of space for development at low cost ; no shortage of fresh water ; good internal communications which are rapidly becoming better and equally good sea and air communications with Great Britain and beyond. All this is set in an accessible and attractive countryside which has proved itself well suited for agriculture, particularly live-stock production. Professor Sir Robert Matthew, in his recent Report on the development of the Belfast region, points out that these are factors of great potential value and that they demonstrate a type of environment which is becoming increasingly rare, and therefore more valuable, in Europe where past industrialisation has been allowed, or has allowed itself, more and more to destroy natural amenity. That the seamy side of industrialism has not, so far, overwhelmed the general environment of Northern Ireland is a factor which should be put at the top of the list in its favour.*

13. Industrial development in Northern Ireland did not originate in the availability of cheap and convenient raw materials and local supplies of fuel. As far as has been ascertained, there are no significant deposits of oil, coal or other minerals. Even in the traditional linen industry almost all the flax required is now imported. The lack of raw materials and of fuel, and the geographical position of Northern Ireland in relation to its markets and sources of supply, have encouraged the concentration of manufacturing industry near to the coast and the development of those industries in which transport costs are low in proportion to the value of the finished goods. There has been a consequent concentration of population in and around Belfast where more than a third of the total now live.

14. Historically the main features of the Northern Ireland economy have been agriculture, shipbuilding and textiles, in each of which there has been a marked decrease in manpower during recent years. In agriculture, a number of factors—mechanisation, specialisation, scientific development and a tendency towards amalgamation of small farms—have contributed towards increased output, notwithstanding the reduction in manpower. In the face of continuing severe competition, largely brought about by an over-expansion of world shipbuilding capacity, the local shipbuilding industry has adopted realistic policies of modernisation and rationalisation and has adjusted itself to current trading conditions ; but there has been inevitably a substantial reduction in the numbers employed. In textiles, a fall in the demand for linen has led many existing firms to modernise extensively and to blend synthetic fibres with flax, and others to turn to synthetic fibres completely. In recent years many new firms of international standing which specialise

* Belfast Regional Survey and Plan: Recommendations and Conclusions. Cmd. 451. Belfast H.M.S.O., 1963.

in synthetic fibres have established themselves in Northern Ireland and production of these fibres has been expanding rapidly.

15. Although the number of people in civil employment has remained comparatively stable since 1945, this conceals some significant changes in the structure of employment opportunities. The post-War expansion in public services, particularly education and health, has led to a large increase in employment in the public sector of the economy and in the construction industry, on which much of the public investment programme has fallen. At the same time many new industrial enterprises have created employment, and this has helped to offset reductions in the older industries. Despite the steady drift from the land, agriculture in 1963 still accounted for about 13 per cent. of total employment compared with 3·5 per cent. in Great Britain.*

16. These features of the employment position do not, however, indicate stagnation ; the annual growth rates in industrial production have, in fact, been greater than those for the United Kingdom as a whole. Nevertheless, since 1945, the unemployment rate in Northern Ireland has been consistently higher than in any other region of the United Kingdom ; the annual average unemployment percentage has been four, five and even six times that for Great Britain and has been two or three times that for Scotland. Yet, even with this high rate of unemployment, there are shortages of skilled workers in some areas. A further problem arises from the wide scatter of unemployment throughout the country. This stems in part from the pattern of population distribution.

17. Average earnings are lower than in Great Britain and, although personal income per head relative to the rest of the United Kingdom has been increasing, it is still only about three-quarters of the average for the United Kingdom.

18. In the circumstances it is not surprising to find that the " activity rates ", i.e. the working population expressed as a percentage of the total adult population in Northern Ireland, are lower than the rates for Great Britain as a whole, although they may, in fact, be similar to the rates for some areas of Great Britain. The percentages for Northern Ireland are 80 for men, 50 for single women, and 21 for married women ; the Great Britain figures are 86 per cent., 53 per cent. and 33 per cent. respectively. The particularly low activity rate for married women in Northern Ireland is, we are informed, mainly to be explained by the fact that farmers' wives are not included in the employment figures, but it is also partly due to lack of opportunity for employment. It is caused also by the incidence generally of larger families in Northern Ireland than in Great Britain.

19. Northern Ireland has followed the general trend towards lower fertility observed in Western Europe over the past hundred years, but at a much higher level than in Great Britain. Regional differences in fertility are usually associated with such factors as social class, education, religion and the proportion of women in employment. Although the marriage rate in Northern Ireland is lower than in Great Britain, the birth rate is the highest in the United Kingdom. The average age at marriage is falling, but it is still higher than in England and Wales. By the age of 21, for instance, 12

* Appendix VII, Table 96.

per cent. of men and 30 per cent. of women are married as against 20 per cent. and 49 per cent. respectively in England and Wales.

20. The tradition of migration induced by the deficiency in employment opportunities has limited considerably the population expansion that would have occurred from natural increase. In the ten years to 1961 the average net movement out of Northern Ireland was 9,200 per annum compared with an average annual excess of births over deaths of about 15,000. The gross movement of population was, no doubt, much more than this and, as ease of communication grows, the present two-way flow of workers between Northern Ireland and Great Britain could well extend to the continent of Europe and beyond ; so that what used to be thought of as emigration may come to be regarded simply as a form of mobility of labour.

21. But, if Northern Ireland's industrial output is to increase at the rate now deemed desirable, a substantial increase in the number of skilled and versatile workers will be necessary. There is ample evidence in Northern Ireland's unemployment figures that there is little opportunity now for the unskilled worker. Techniques are changing so rapidly that some of the traditional occupations are virtually obsolete. In future there will have to be more mobility and flexibility of labour within industry, and, in order to help achieve this, some radical changes in present apprenticeship training seem inevitable. The new Training Boards being set up under the Industrial Training Act (Northern Ireland) 1964 should do much to hasten these developments. In agriculture also the search for greater productivity means that new skills are replacing traditional methods. The Minister of Agriculture has said that he regards the provision of proper training for farmers as the keystone of Ulster's policy for farming progress, and that he is attempting to create an atmosphere in which the "college-trained farmer" will be regarded as synonymous with everything that is progressive and purposeful in farming.

22. Industrialists with whom we had discussions were agreed that a more plentiful supply of technologists and technicians and of men and women for "middle management" was essential to reinforce Northern Ireland's efforts to hold a competitive place in world markets. We, therefore, welcome the establishment of a Committee by the Minister of Commerce under the Industrial Advice and Enterprise Act (Northern Ireland) 1964, and the commissioning by that Committee of a survey covering all but the highest management grades. The recommendations of this Committee should do much to fill a serious gap in the assessment of manpower requirements. Notwithstanding the Committee's terms of reference the Committee will, we are assured, give consideration to Northern Ireland's needs at the highest level of management in the light of the Franks Report on management in Great Britain.* We do not, therefore, propose to make specific comments on this important aspect of higher education.

23. Some indication of the employment within Northern Ireland of persons with scientific and technical qualifications was given in the reports of the 1961 Population Census. As against a population ratio of 2·7 per cent. the Northern Ireland share of the United Kingdom pool of such people was

* Report by Lord Franks. British Institute of Management, 1963.

1·3 per cent. Within Northern Ireland 26 per cent. of the technically qualified people were teachers compared with 17·4 per cent. in Great Britain. An analysis of the occupations entered by Queen's University graduates in each of the years 1962 and 1963 is given in Tables 49–52 of Appendix VII. This again shows teaching to be the occupation to which the most significant numbers go on graduation. For many years Queen's University has been producing more graduates than can be absorbed in Northern Ireland. About 40 per cent. of those still living who obtained primary degrees in 1953 or earlier, and who can now be said to be reasonably settled in their careers, are employed outside Northern Ireland.* For medical graduates the corresponding figure is about 56 per cent.

24. An enquiry which we conducted into the employment of graduates locally within industry and commerce revealed that the numbers involved are small.† Out of the 239 firms approached 190 gave the information requested. Of these 190, 96 did not employ graduates. The remaining 94 firms employed a total of 435 graduates, of whom 137 were in administration, 18 in management training, 6 in personnel management and 274 in technical grades; about one-third of this total had graduated in Great Britain. Appreciably more graduates were employed in central and local government: excluding teachers, the numbers were 250 in administration and 911 in professional and technical work, about 20 per cent. having graduated in Great Britain.‡

25. We wished, if possible, to go further than the Robbins Committee and to quantify in some detail the probable future needs of Northern Ireland industry for graduates and other technically qualified staff. The Federation of British Industries undertook to carry out an enquiry on our behalf but, as happened with a similar enquiry which the Federation conducted a few years ago in Scotland, there was an inadequate response. Only 53 out of the 250 firms approached answered the enquiry, and it would not be possible to generalise from these replies on the future graduate requirements of industry in Northern Ireland. We realise of course, how difficult it is to make forecasts of this kind. Developments in the electronics field, for example, have brought about changes in the demand for skills that would have been impossible to foresee a few years ago. The Robbins Committee had the same difficulties on a larger scale and pointed out that "forecasting demand for highly qualified manpower in general . . . is not a matter of simple aggregation of particular forecasts: the entire future movement of the economy is involved, both internally and in relation to the almost infinite possibilities of change abroad, and the interrelationships of the different variables are of a degree of complexity that so far has defied practical solution."§ In our various informal discussions we sought some indication of the probable future industrial structure of Northern Ireland, and we enquired in particular about new types of research development and manufacturing projects which might be initiated in Northern Ireland. These discussions helped in some measure to offset the rather negative results of the formal enquiry, but we did not achieve our objective in full.

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* Appendix VII, Tables 55 and 56.
† Appendix VII, Table 79.
‡ Appendix VII, Table 80.
§ Robbins Report: Paragraph 191.

26. We have also studied the Matthew Report which has as its principal objective a limitation on the growth of Belfast by the creation in County Armagh of a new city of some 100,000 people to absorb Lurgan and Portadown, towns with populations of almost 20,000 each ; and by the expansion of seven other towns (Ballymena, Larne, Carrickfergus, Antrim, Bangor, Newtownards and Downpatrick) within 30 miles of Belfast. Moreover, we understand that the Government's economic programme stresses the importance of growth points and advocates a continuing high level of investment on roads, houses, schools, hospitals, factories, etc. to improve the infrastructure of the country and to create a situation in which industry and commerce can expand. Steps were taken recently to reinforce the position by a decision to establish a Ministry of Development.

27. The return on any programme of capital investment, however impressive, will not be fully realised unless the country's main asset, manpower, is professionally and technically efficient, and is versatile enough not only to cope with but also to stimulate and to assist a change in the pattern of industry. Education is important for its own sake but it also plays a vitally important part in economic development. Investment in it can produce results which are no less important than investment in fixed assets such as factories. It is becoming increasingly clear that no country will survive in the trading conditions of a highly competitive world unless it has well qualified personnel at all levels in industry and commerce. The real wealth of any country lies in its people. The pioneering spirit and industry of the Ulsterman, backed by a good educational system, should ensure that he will continue to respond to challenge.

CHAPTER III

THE FUTURE DEMAND FOR HIGHER EDUCATION

The school system

28. The present demand for higher education comes mainly from the grammar schools, but a recent Report of the Advisory Council for Education* suggests that increasing numbers of young people with the qualifications necessary for higher education will come from other sources, particularly the secondary intermediate schools. As in England and Wales, the transfer from primary to secondary education is made at 11 plus. At this age about 60 per cent. of the age group enter the secondary intermediate schools, 13 per cent. remain in primary schools as yet unreorganised, 24 per cent. enter grammar schools, about a fifth of these being full fee-paying pupils, and 3 per cent. enter junior technical schools. It has, however, now been proposed in a Ministry of Education White Paper† that the junior technical schools should be discontinued as soon as possible wherever this is practicable. No charge may be made to parents for the education provided in the secondary intermediate or junior technical schools; but, as most of the grammar schools, like the direct-grant grammar schools in England and Wales, are under the management of voluntary Boards of Governors, fees are charged by the schools and scholarships are awarded by the local education authorities to pupils who have satisfied a qualifying test either at admission or later.

29. The grammar schools provide a course of seven or more years' duration leading to the General Certificate of Education at Ordinary and Advanced levels. The junior technical schools provide a course of four or more years' duration leading mainly to Northern Ireland Technical Certificates and to the General Certificate of Education at Ordinary level, a small number of pupils proceeding after a further period of study to take some subjects at Advanced level. It is not possible to represent the examination position in the secondary intermediate schools in a general statement. Some schools engage in little external examination work. Many enter some of their pupils for various groupings of subjects in examinations (particularly the Northern Ireland Junior Certificate Examination) below the Ordinary level of the General Certificate of Education, and some for some General Certificate of Education subjects at Ordinary level. A few pupils take subjects at Advanced level.

External school examinations

30. Until 1962 the principal Northern Ireland school examination was the Ministry of Education Grammar School Senior Certificate Examination. This was a "group" examination and, to qualify for the award of the Grammar School Senior Certificate, a candidate had to pass in five or six subjects

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* "Secondary School Organisation": a Report of the Advisory Council for Education in Northern Ireland. Cmd. 471. Belfast H.M.S.O., 1964.

† "Educational Development in Northern Ireland, 1964". Cmd. 470. Belfast H.M.S.O., 1964. The White Paper (Paragraphs 19 and 40) proposes also that the secondary intermediate schools should in future be known as "secondary schools".

chosen from pre-determined groupings. Before 1952 this Examination was conducted at a single level intermediate between the former School and Higher School Certificate Examinations of England and Wales. Thereafter it was conducted at Ordinary and Advanced levels, as are the examinations for the General Certificate of Education which were introduced in England and Wales in 1951.

31. The introduction of the Northern Ireland General Certificate of Education in 1963 brought the Northern Ireland examination system fully into line with that in England and Wales. The examinations for this Certificate have been placed under the direction of a Committee on which there is a substantial Queen's University representation. Under the system operating between 1952 and 1962 the Ordinary level syllabuses were more extensive in content than the Ordinary level syllabuses of the examining bodies in England and Wales; and some schools preferred to take six years to Ordinary level (usually in the full range of six subjects so that the candidates could qualify at one sitting for the Certificate) and one further year to Advanced level. This was in contrast with the normal practice in England and Wales of a maximum of five years to Ordinary level followed by two in the sixth form to Advanced level. With the changes introduced in 1963 the Northern Ireland grammar schools are now moving towards the same normal pattern as schools in England and Wales, two or more subjects being studied at Advanced level for two years before the Advanced level examinations are taken.

The pool of ability

32. The arguments put forward in the Robbins Report about the pool of ability for higher education* are as applicable to Northern Ireland children as to those in Great Britain. It may be that certain differences—such as the length of time spent in sixth forms, the fact that the school-leaving age was raised to 15 in 1957, ten years later than in Great Britain, and the lower level of personal incomes—may currently affect the numbers in higher education. But there is no reason to suppose that innate abilities are less and that, given similar background conditions in the future, the proportion of young people capable of benefiting from higher education should be significantly different in Northern Ireland from that in Great Britain.

33. The Crowther Report indicated the close association between a father's occupation and the educational achievement of his children at school†. The Robbins Committee commissioned a survey of 21 year olds in Great Britain to show the influence of such factors as parents' occupations, parents' education, size of family and type of secondary school in determining whether or not a young person entered higher education. Rather than delay our Report we decided not to mount such a comprehensive survey in Northern Ireland. We did, however, make an analysis of a sample of 20 year olds from the 1961 Population Census where sons and daughters were at the same address as their parents on census night. This showed that the age at which children cease full-time education is related to the age at which their parents did so and also that the proportion of young people continuing full-time

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* Robbins Report: Paragraphs 137–146.

† "15 to 18": A Report of the Central Advisory Council for Education (England). London H.M.S.O., 1960.

education after reaching the age of 20 is higher in the present generation than it was a generation ago.

34. The percentage of 17 year olds at school in Northern Ireland has grown from 6·4 in 1951 to 13·3 in 1962, the average annual increment over the eleven years of this period being 0·63 per cent. The rate of increase has, however, also been increasing and the average annual increment for the second half of the period is more than double the increment for the first half, the percentages being 0·87 and 0·34 respectively. The position in Northern Ireland in 1962 differed considerably from the position in Great Britain, particularly in the case of girls. The percentages in that year were as follows:—

	Boys	*Girls*	*Total*
Northern Ireland	14·1	12·4	13·3
England and Wales	13·5	10·5	12·0
Scotland	14·0	10·5	12·2

In 1963 the Northern Ireland percentage total was 14·0 and provisional estimates for 1964 indicate a figure of about 14·7, an increase of 0·7 per cent. per annum in each of these two most recent years. But the proportion of girls staying on at school to attempt Advanced level qualifications is very much lower than that for boys* ; this is the pattern in Great Britain as well as in Northern Ireland.

University places required

35. In assessing the numbers eligible to benefit from university education we have for convenience used the same criterion as the Robbins Committee, namely those leaving school with at least two subject passes at General Certificate of Education Advanced level standard†. Details of the numbers of pupils in this category are, however, available only for the three years 1961, 1962 and 1963 when the figures were 6·4 per cent., 5·6 per cent. and 6·4 per cent. respectively of the relevant age group‡§. Such an irregular movement can to some extent be attributed to the changes in the arrangements for student grants following the recommendations of the Committee on Grants to Students under the chairmanship of Sir Colin Anderson‖ and

* Appendix VII, Table 4.

† In our assessment of the places required in university education we do not overlook those who do not satisfy this criterion and who come forward, for example, by way of National Certificate courses.

‡ The concept of the age group is best illustrated by reference to those entering higher education. The entrants in any year are of various ages. Those of each age entering are expressed as a percentage of their own age group, and these separate percentages are then summed. This gives a percentage of each composite age group, suitably weighted to allow for the numbers of each age entering and the size of the age groups from which they come. Where the data did not permit this type of calculation, an approximation has been used: all entrants have been expressed as a percentage of the single age group from which the largest number of entrants was thought to be drawn. This method is explained more fully in Annex B of Appendix One of the Robbins Report.

§ The estimated 1964 figure is 6·6 per cent.

‖ Report of the Committee on Grants to Students. Cmnd. 1051. London H.M.S.O., 1960. In 1961 the Northern Ireland Government accepted the general principles of the Report of the Anderson Committee as adopted in Great Britain for the award of university scholarships. The three most significant consequences of this decision were: first, a substantial increase in the number of awards as a result of the lowering of the scholarship qualifying standard to two General Certificate of Education Advanced level passes; secondly, the making of awards to qualified students entering United Kingdom universities for the first time for first degree courses compulsory upon the local education authorities; and thirdly, substantial increases in scholarship values partly by increases in the authorised rates and partly by a radical revision of the parental means test.

to the curricula and examination changes referred to in Paragraph 31. From the figures for these three years we did not consider it possible to project future trends. After consultation with the Ministry of Education we assumed that the average annual rate of increase in the proportion of the relevant age group with two General Certificate of Education Advanced level passes would be similar to that envisaged in the Robbins Report.

36. In 1961 in Great Britain about 7 per cent. of the age group reached the minimum standard for university entrance—for the present purpose substantially the same as the attainment of two Advanced level passes—and on the basis of the trend over the preceding few years it was assumed in the Robbins Report that this percentage would rise to12·9 in England and Wales and 11·6 in Scotland by 1980. On this basis about 12 per cent. of the relevant age group in Northern Ireland should by 1980 leave school with a standard of attainment at least as high as the minimum university entrance requirement. The following factors, which we list in their approximate order of significance, reinforce our confidence in this estimate:

(*a*) the growing numbers in the upper forms of grammar schools and the effect of a two-year course between Ordinary and Advanced levels becoming the normal practice in all schools ;

(*b*) the fact that, while the proportion of girls leaving grammar schools who reach university entrance standard is still a long way below that of boys, it may be expected to rise rapidly during the next few years ;

(*c*) the fact that the full effect of the Anderson Report has not yet been felt ;

(*d*) the increasing flow of students with Advanced level passes from secondary schools other than grammar schools and with Advanced level passes or equivalent qualifications (e.g. Ordinary National Certificate) from technical institutions ;

(*e*) the rapidly increasing numbers of parents who have enjoyed the benefits of secondary education and who will wish their children to have an even better education ;

(*f*) the likelihood that an increasing proportion of employers and managers in industry and commerce with higher education themselves will encourage higher standards of education among their employees ; and

(*g*) related to "(*f*)", and in part a consequence of it, the inception and long-term effects of the Industrial Training Act of 1964.

Estimates put to us in evidence of the proportion of the age group eligible for university education by 1980 varied from very little in excess of the present figure of about 7 per cent. to as much as 19 per cent. The considerations set out in the last three paragraphs have convinced us that the lower of these two limits is unnecessarily pessimistic. On the other hand, while it may well be that a figure approaching 20 per cent. will be reached towards the end of the century, we feel that an increase of such a high order cannot be expected within the next sixteen years.

37. In 1963 there were 25,000 18 year olds in Northern Ireland and of these about 1,600 had gained two Advanced level passes before leaving school; about 75 per cent., i.e. 1,200 of them, went forward to Queen's University or Magee University College or to universities outside Northern Ireland. There were 1,003 undergraduate and 52 postgraduate full-time new entrants to Queen's University and enrolments of full-time students amounted to 4,135, including 395 postgraduates; at Magee University College there were 102 full-time new entrants and a total enrolment of 245 full-time students. Of these 65 undergraduates and 41 postgraduates entered Queen's University and 34 undergraduates entered Magee University College from outside Northern Ireland. In the same year 239 undergraduate scholarships and 17 postgraduate studentships were awarded from public funds to new entrants to universities outside Northern Ireland, a fair measure nowadays of the actual numbers entering these universities from Northern Ireland. There was thus a net outflow of about 100 students, a situation which has been partly caused by a fall in recent years in the number of Commonwealth students coming to Queen's University. In estimating university places required, allowance must be made for student outflow as well as student inflow, both undergraduate and postgraduate, and we have assumed for the purpose of our estimate that the two-way flow will continue and that it will become self-balancing.

38. For a number of years past the total full-time enrolment at Queen's University—undergraduate and postgraduate—has been approximately the same as the sum of the undergraduate entrants for the current year plus those for each of the previous three years. We have assumed that the total number of undergraduate and postgraduate places required will, for the next decade or two, continue to be approximately four times the undergraduate intake. As we are concerned more with the order of magnitude than with precise figures any margin of error in this assumption will not affect our general conclusions. In assuming this factor of 4 we have had regard to a number of matters to which we refer later including, for example, the probable effect on university courses on the one hand of increasing sixth form work in the grammar schools and on the other of a substantial increase in the amount of postgraduate work.

39. The estimated number of 18 year olds in 1980 is 29,000. This is an actuarial figure based on the 32,500 births in 1962 and takes account of such factors as mortality and migration. The diagram opposite shows, for Northern Ireland in comparison with Great Britain, the pattern of the increase in the 18 year old age group between 1961 and 1980 expressed as a percentage of the number of 18 year olds in 1961. Although there will be a slight bulge in Northern Ireland in the mid-1960s, this does not present the same problem as the bulge in Great Britain where there will be 35 per cent. more 18 year olds in 1965 than in 1961. Between 1961 and 1980 the increase in the 18 year old age group will be 20 per cent. in Northern Ireland as compared with 26 per cent. in Great Britain*.

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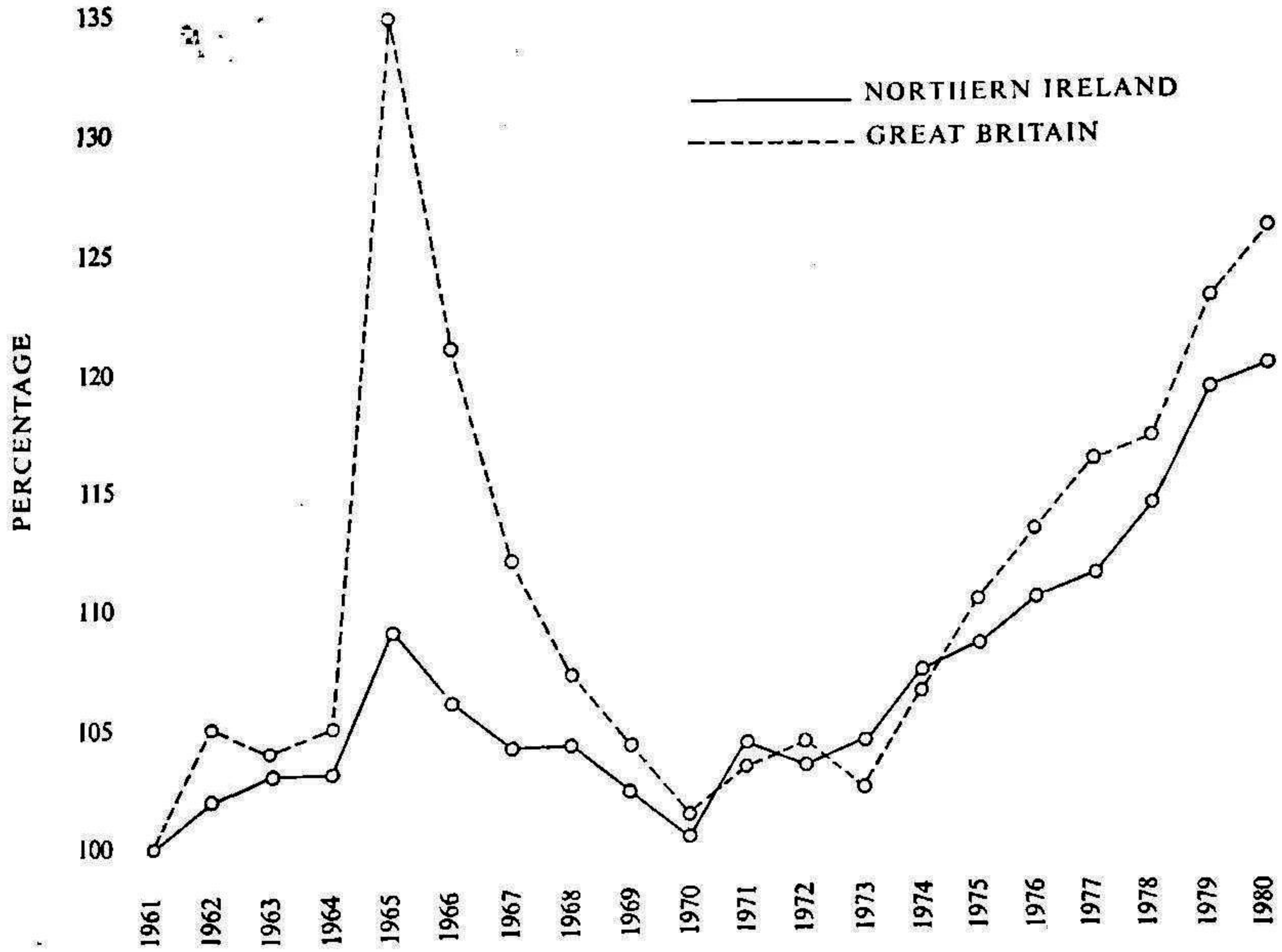
* Appendix VII, Table 8.

18 year old age group expressed as a percentage of the number of 18 year olds in 1961

1961–1980



40. In Paragraph 36 we assumed that by 1980 about 12 per cent. of the relevant age group would leave school with a standard of attainment at least as high as the minimum university entrance requirement. The relevant age group for this purpose is 29,000 and 12 per cent. of this age group amounts approximately to 3,500. Accepting the argument in the Robbins Report that an increased proportion of those qualified for university entrance—for Northern Ireland say about 85 per cent. in comparison with the present 75 per cent.—will wish to proceed to universities,* we estimate that 3,000 places will be required in that year for first-year students. Multiplying by our assumed factor of 4 gives 12,000 as the total number of university places which will be required by 1980 for both undergraduate and postgraduate students. This may well be an underestimate. In determining our factor of 4 we took no account, for example, of students transferring from part-time courses to full-time (including sandwich) degree courses and it is possible that the rate of growth of postgraduate work may be quicker than we have allowed for. Furthermore the Robbins' projection—on which we based our estimated 12 per cent.—did not take account of any change in the minimum school-leaving age which, it has been announced, is to be raised to 16 in 1970/71 in Great Britain and not later than that date in Northern Ireland. The effect of this on the proportion of children staying on at school beyond the minimum age is difficult to assess; but all children after 1970 will stay at school until the year in which General Certificate of Education examinations are normally taken at Ordinary level. This should encourage some who might not otherwise do so to remain at school for a further period to take Advanced level examinations. Such a development would have a gradual and progressive effect upon long-term trends rather than produce a sudden increase in numbers, but by 1980 it could well mean between 200 and 300 more school leavers with at least two General Certificate of Education Advanced level passes and could raise the total of full-time university places required by perhaps 1,000 to 13,000.

Places required for teacher education

41. When we turn to the number of places required for teacher education we can, to some extent, base our estimates on probable future needs for the staffing of schools. There were in 1962/63 about 290,000 pupils and 11,000 teachers in Northern Ireland. Of the latter about 6,000 were in primary, 3,000 in secondary intermediate and 2,000 in grammar schools with, on average, 30, 22 and 20 pupils per teacher respectively. About 7,500 of these teachers were from training colleges. By 1980 the population of school age will be about 25 per cent. higher than in 1962 and, with the effect of the raising of the school-leaving age to 16, the school population will be about 380,000. Allowing for improvement in the staffing ratios, and for wastage through marriage, death, retirement and for other reasons, we estimate that about 8,500 primary, 5,000 secondary intermediate and 3,500 grammar school teachers will be required. We estimate also that about 11,000 of this total of 17,000 will be non-graduate teachers and that, if present teacher training methods continue, about 3,000 places will be required for intending non-graduate teachers by 1980 compared with the 1963 figure of 2,000. This estimate is substantially in keeping with the short-term estimates recently made by the Advisory Council for Education†.

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* Robbins Report: Paragraphs 155-164, 461-465 and Appendix One, Part IV, Sections 6-9.
† "Supply of Teachers".

Places required in further education

42. In Northern Ireland there are no institutions comparable in scope with the Colleges of Advanced Technology in England and Wales or with the Scottish Central Institutions. Nor is there a system of designated Regional and Area Colleges, as in England and Wales. Work beyond the first year of the Higher National Certificate course is done mainly at the Belfast College of Technology and to a much less extent at the Londonderry Municipal Technical College and the Coleraine and Larne Technical Colleges. But in addition to this work there is a wide variety of other courses, including commercial courses, in these and other colleges of further education and in institutions like the Belfast Colleges of Art and Domestic Science, of which account must be taken in estimates of future demand. For the purposes of our estimates of places needed in further education for students taking higher education courses we have confined our figures to those students of the age of 18 and over known by the Ministry of Education to be in full-time further education. Although the numbers of such students rose from 900 in 1959 to 1,400 in 1963, Northern Ireland requires a very substantial further increase and we therefore consider that provision should be made for at least 4,000 places by 1980.

. . . . . .

43. We have listed in Paragraph 36 a number of factors influencing future numbers, on which in the present state of information it is difficult to do more than speculate. It is impossible to quantify the various independent variables but all the factors listed would tend to exert an upward pressure on numbers. Moreover, the very publication of the Robbins Report has made people more aware than ever before of the value both to the individual and to the community of increased facilities for higher education. We hope that our Report may increase this awareness within Northern Ireland. Every estimate has its limitations. Changes in educational policy and in the social and economic climate in Northern Ireland may alter present trends, but we feel that the order of magnitude of our projections can be adopted as a basis for providing for higher education in the next decade. Our various estimates will require revision from time to time in the light of actual experience, but the recommendations which we make later about the development of a permanent statistical service and of research should facilitate this revision.*

* Paragraphs 309–311.

CHAPTER IV

EXISTING INSTITUTIONS AND THEIR DEVELOPMENT PLANS

THE QUEEN'S UNIVERSITY OF BELFAST

*History**

44. The Queen's University of Belfast originated as one of the Queen's Colleges set up under the Queen's Colleges (Ireland) Act, 1845, along with Queen's Colleges in Cork and Galway, as constituent Colleges of the Queen's University in Ireland. The Queen's College in Belfast opened in 1849 with 195 students and offered courses in arts, engineering, law and medicine. When, under the Irish Universities Act of 1908, the College received its Royal Charter as the Queen's University of Belfast, Faculties of Arts, Science, Law and Medicine were established. The Faculty of Commerce was added in 1910 (renamed the Faculty of Economics in 1947), the Faculty of Applied Science and Technology in 1921, the Faculty of Agriculture in 1924 and the Faculty of Theology in 1926. A Department of Extra-Mural Studies was created in 1928.

Government and administration†

45. The system of government of Queen's University is broadly the same as that of the other civic universities of the United Kingdom. Convocation is the body responsible for the election of the Chancellor and the approval of new statutes. It consists of all registered graduates together with the members of the Senate‡ and the academic staff. The government of the University is vested in the Senate, which consists of 45 persons, both academic and lay, but with a lay majority. It has power to regulate and determine all matters concerning the University, but much of its detailed business is conducted through various committees. Apart from the Vice-Chancellor the principal administrative officers of the University are the Secretary, the Bursar and the Librarian, who are appointed by the Senate and are responsible to it. The Secretary to the University acts as Secretary to the Senate and provides secretariat as necessary for the Senate committees.

46. The Academic Council§ is the supreme academic authority of the University and is responsible for internal academic administration other than appointments of academic staff, which are made by the Senate on the recommendation of a Board of Curators. It has no lay members. The Vice-Chancellor is ex-officio Chairman. The Academic Council works through a number of committees, the most important of which are the Deans' Committee, the Discipline Committee, the Research Committee and the Scholarships Committee. The Secretary to the Academic Council and to these committees of the Council is, one of the professors of the University who is

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* Appendix II, 1.
† Appendix II, 2.
‡ The supreme governing bodies of universities in Great Britain are variously known by other titles such as the Court or the Council.
§ Known as the Senate in many other United Kingdom universities.

appointed by it and who has a staff separate and distinct from the staff of the Secretary to the University.

*Courses**

47. A variety of courses is available in the different faculties. The length of the first degree courses varies according to faculty—six years for medicine, five for dentistry, and in most other disciplines four years for an honours degree and three for a general or pass degree. In this, the pattern at Queen's University is more akin to that of the Scottish than English or Welsh universities. The only subject in which a first degree can be taken by part-time study is economics. From the statistical returns of recent years, the proportion taking honours degrees in arts, social studies, pure science and applied science is about 50 per cent.† This compares with a similar proportion for universities in Scotland and with a proportion of about 80 per cent. for universities in England and Wales. Comparable figures are not readily available for other disciplines.

Entrance requirements‡

48. The general entrance requirements follow the same pattern as those of other United Kingdom universities and are expressed in terms of five or six passes in examinations for the General Certificate of Education, including at least two at Advanced level. In addition, faculties may have special requirements. The minimum age of entry is 17 on 15th October in the year of entry but few students enter under 18 years of age. Of the first year full-time undergraduates in 1963/64, 11 per cent. were under 18 on 15th October, 1963, 54 per cent. were 18 but under 19 and the remaining 35 per cent. were 19 or over. Calculated at 1st January, 1964, the proportions were 5 per cent., 50 per cent. and 45 per cent. respectively§.

Students

49. In the 1963/64 academic year, 1,059 undergraduates and 73 postgraduate students (in both cases including both full-time and part-time students) entered the University, and the total number of full-time and part-time students was 4,708. These numbers‖ were made up as follows:—

	Undergraduate			*Postgraduate*¶			
	Men	*Women*	*Total*	*Men*	*Women*	*Total*	*Total*
Full-time**	2,742	998	3,740	305 (54)	90 (37)	395 (91)	4,135 (91)
Part-time**	263	30	293	249 (60)	31 (8)	280 (68)	573 (68)
	3,005	1,028	4,033	554 (114)	121 (45)	675 (159)	4,708 (159)

50. In the 1963/64 academic year, 90 per cent. of the full-time students (undergraduate and postgraduate) came from within Northern Ireland, 36 per cent. being from Belfast. Of the remaining 10 per cent., 4 per cent. came from other parts of the United Kingdom, 1 per cent. from the

* Appendix II, 3.
† Appendix VII, Tables 36–44.
‡ Appendix II, 4.
§ Appendix VII, Table 9.
‖ Appendix VII, Tables 10 and 11.
¶ Figures in brackets give numbers of students taking diploma or degree courses in education and are included in the gross figures.
** Including 96 full-time and 15 part-time students taking Queen's University degree courses in applied chemistry, chemical technology, pharmacy and textile technology at the Belfast College of Technology.

Irish Republic and 5 per cent. from overseas*. Of the postgraduate students, 75 per cent. had taken their first degrees at Queen's University, 11 per cent. came from universities in Great Britain, 8 per cent. from the Irish Republic and the remaining 6 per cent. from overseas.

51. That the catchment area of Queen's University is confined is also demonstrated by the fact that, in 1963/64, 2,339 or 57 per cent. of the students were living at home†. The comparable average figure for all universities in Great Britain in 1962/63 was 19 per cent., the individual figures ranging from 2 per cent. at Oxford and Cambridge to 17 per cent. at the larger civic universities in England, 24 per cent. in London and 42 per cent. in Scotland. The University is very inadequately provided with residential accommodation but is conscious of the urgent need to remedy this deficiency.‡ Most of the students living away from home are in lodgings or flats. In 1963/64, only 191 of the 1,796 students living away from home were in University hostels†. One of these was provided by the University in converted houses as temporary accommodation for 61 men students when the former men's hall was demolished recently to clear a site for a new Students' Centre. There are two privately endowed women's halls: Riddel Hall, which was opened in 1915, holds about 70 students and Aquinas Hall, opened in 1944, houses approximately 60 and is at present being extended to provide for 20 more. The University is at present building five halls of residence, each to hold approximately 160 students. Four of these are to be ready by 1965/66 and the fifth by 1967. One of the new halls will be allocated to women students. There will then be almost 1,000 students in halls of residence, but the proportion of the total living in halls of residence will have been raised from just over 4 per cent. of the present enrolment to just over 18 per cent. of the enrolment planned for 1967/68.

Student amenities‡

52. The Students' Union and the Women Students' Hall are the main centres of student social life. The former, built in 1897 and extended in 1933, is very inadequate for the present number of men students and the latter, which is in two converted houses, is also overcrowded. A new Students' Centre, planned to accommodate 4,500 students but capable of extension, should be ready by 1966. The new Centre will have a large refectory which should ease the pressure on existing catering facilities. The University Physical Education Centre is also overcrowded but the University has plans to build a new Centre for 4,500 students which will contain a swimming pool. The present playing fields of about 25 acres are being replaced by new playing fields of 114 acres. The University has a Student Health Service which conducts routine medical examinations of first year students and of medical and dental students entering upon their clinical studies. The medical officer and his staff also operate a clinic and provide a general practitioner service for a considerable number of students and members of staff. There is a Students' Representative Council.

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* Appendix VII, Table 12.
† Appendix VII, Table 14.
‡ Appendix II, 5 and 6.

*Staff**

53. In the academic year 1963/64, the University had 472 full-time staff. A student/staff ratio gives little indication of the amount of staff time available to students since the allocation of time differs widely from faculty to faculty and within courses. But, for purposes of comparison with the Robbins Report, we have calculated a ratio by dividing the total number of full-time students by the total number of full-time staff†. On this basis the ratio for 1963/64 was 8·8 students to each full-time member of staff, the ratio for 1962/63 being the same. The comparable figure for universities in Great Britain for 1962/63 was about 8:1. Of the staff, 197 took their first degrees at Queen's University, 58 at Oxford or Cambridge, 108 at other English or Welsh universities, 28 at Scottish universities, 25 at the University of Dublin (Trinity College) or the National University of Ireland and 20 at universities overseas. Three members of the staff have held posts in three or more United Kingdom universities other than Queen's University, 29 in two other universities and 100 in one other.

Buildings and sites‡

54. Queen's University does not have an enclosed precinct. It is housed in a miscellany of buildings concentrated around a main block with various outcrops within a radius of about half a mile, an outlying group of buildings for the Faculty of Medicine beside the main teaching hospital about 2 miles away, and agriculture field stations and playing fields in the suburbs of Belfast. The main block is situated within about a mile of the city centre. Map A gives the location of its principal buildings (both existing and projected) and Map B shows these in relation to the other institutions of higher education in or near Belfast. The buildings differ in age and style, varying from the Victorian Gothic of the main block to a substantial number of post-war buildings. As a result of the sudden growth of the student population in recent years, lecture rooms, the library and the administrative offices are all overcrowded, and there is a shortage of residential accommodation for students and of student amenities generally. A major drawback of the existing accommodation is its dispersal, but the University has recently acquired some central sites which will allow for considerable development in the most suitable place. It is also reconstructing part of the main block. The present building programme is related to a student population of 4,750§ by 1967/68, but is being revised in the light of an increase in the target figure to 5,170§. A bar to further satisfactory development is the increasing difficulty which the University is experiencing in acquiring property within reasonable distance of its central area.

Faculty of Medicine

55. There are three faculties to which we wish to draw special attention because they have an unusual relationship with bodies outside the University. The first is the Faculty of Medicine, which has a close link with

* Appendix VII, Tables 47–54.
† Robbins Report: Paragraphs 521–523.
‡ Appendix II, 5 and 6.
§ Excluding degree students at the Belfast College of Technology.

the statutory Health Services. Under an arrangement with the Northern Ireland Hospitals Authority most of the medically qualified academic staff in the Faculty hold joint appointments under which, although appointed by the Senate of the University, they also have clinical responsibilities to the Hospitals Authority. The Authority is obliged by statute to provide Queen's University with facilities for the teaching of clinical medicine and dentistry and for medical and dental research. The undergraduate teaching hospitals are all in Belfast. Many of the buildings of the Faculty of Medicine are of post-war construction and work is under way on three major additions—a dental hospital, a building for pre-clinical teaching and a microbiology building.

56. The University is expanding educational facilities at postgraduate level for doctors employed in the statutory Health Services. A Postgraduate Educational Board has been set up and a full-time Dean of Postgraduate Studies is being appointed. This Board will plan and supervise, in large hospitals both in Belfast and elsewhere, a wide range of courses for general practitioners, hospital doctors and medical officers of health. Postgraduate study will thus become a feature of the professional life of all doctors in these statutory services.

57. The Faculty has had a quota of entrants since 1939, unlike most other faculties which have imposed limits only in the past few years when forced to do so by pressure on places. About 90 students are admitted annually into medicine and about 20 into dentistry, but it is hoped to increase these figures to between 115 and 120 students in medicine by 1969, and to between 30 and 35 in dentistry by 1966. In addition to its income through normal university channels the Faculty of Medicine receives grants from various bodies, including the Hospitals Authority, for specific research projects. It also has endowment funds at its disposal.

Faculty of Agriculture

58. Secondly we wish to draw attention to the close connexion between the Faculty of Agriculture and the Ministry of Agriculture which was formally laid down in the Queen's University of Belfast Act (Northern Ireland) 1928. At the time of the establishment of the Government of Northern Ireland the University had no Faculty of Agriculture and the newly-formed Ministry of Agriculture was anxious to encourage agricultural education and research. The University, therefore, agreed to set up a Faculty but on condition that the Government supplied the annual grant necessary to maintain it and the capital grant to provide buildings. The Faculty is financed entirely by the Ministry of Agriculture and is not included in the normal financial arrangements for the University. Recurrent expenses are voted direct by Parliament on an annual basis in a departmental Vote of the Ministry of Agriculture, and capital expenditure on building works is met by the Ministry of Finance in the same way as that of any Government department. Moreover, the Faculty of Agriculture staff are civil servants and are paid not by the University on university salary scales but direct by the Ministry of Agriculture at the rates applicable to the Scientific Civil Service.

59. When any appointment of a professor or a lecturer is being made the Ministry has the right to submit to the University the name of a

person whom it judges to be fit for the post (normally someone already on its research staff) and such person, if approved, is appointed by the University. As the University takes no part in the making of appointments to the Civil Service, its choice when appointing staff to the Faculty of Agriculture is very much more restricted than when making appointments in other faculties. The University professors in Agriculture do, however, sit on Civil Service Selection Boards in their capacities as civil servants. The arrangement has made it possible for the Faculty to distribute its teaching among a very much greater number of specialists than if appointments had to be made on a basis which would ensure that each lecturer had full-time employment throughout the year on University work alone.

60. The work of the Ministry of Agriculture and the Faculty is, therefore, very closely linked. All members of the Faculty are civil servants and in their dual capacities are responsible for providing the teaching in agriculture and agricultural science subjects in the Faculty, for carrying out research work, and for providing scientific services for the operation of Ministry of Agriculture schemes for the benefit of farmers and the agricultural industry in, for example, seed, milk and soil testing. They also act as specialist advisers to the Ministry and in the Ministry's agricultural advisory service. The Faculty building is near the main University building, but the present building is too small and new accommodation is being sought.

Faculty of Applied Science

61. The third Faculty of special interest is the Faculty of Applied Science and Technology. The relationship between Queen's University and the Belfast College of Technology and the impact of this relationship on the work of the Faculty are described in Paragraphs 70 to 75.

*Finances**

62. Like most British universities, Queen's University draws practically the whole of its income from Government sources. In fact, it is probably more than usually dependent on Government aid because financial help in the form of private benefaction or of endowment provided by industry has never been forthcoming on any large scale, and the direct local authority grants it receives are very small†. Direct Government grants provide about 80 per cent. of the University's income for current expenditure, direct local authority grants and endowment income each representing only about 1·5 per cent. The balance comes from students' fees, which nowadays derive almost exclusively from public funds by way of scholarships. Minor statutory grants totalling £60,000 per annum are payable under the Government of Ireland Act, 1920, the Church Temporalities Fund Act (Northern Ireland) 1922, the Queen's University of Belfast Act (Northern Ireland) 1928, and the University and Collegiate and Scientific Institutions Act (Northern Ireland) 1938; but the main

* Appendix II, 7; Appendix VII, Table 97.
† County and county borough councils are specifically empowered by the Local Authorities (University Grants) Act (Northern Ireland) 1925 to give grants to Queen's University.

source of finance is through extra-statutory grants towards recurrent and non-recurrent, or capital, expenditure. Only a minute proportion of the money for capital expenditure comes from other than Government sources. The University Grants Committee advises the Ministry of Finance on the extra-statutory grants that should be paid to ensure that Queen's University is treated on a comparable basis with universities in Great Britain*. It was recently announced that these responsibilities of the Ministry of Finance will shortly be transferred to the Ministry of Education.

External relationships

63. Queen's University plays a leading part in the promotion of adult education in Northern Ireland through its Joint Committee for Adult Education on which are representatives of the University, the Workers' Educational Association, local education authorities, Magee University College and the Ministry of Education. Its Department of Extra-Mural studies provides the lecturers and tutors for adult education classes all over Northern Ireland. In less formal ways it makes an indispensable contribution to the cultural life of Belfast and of Northern Ireland in the promotion and sponsoring of public lectures, seminars, exhibitions, dramatic productions, concerts and recitals. In addition, University nominees are appointed to many public bodies, for example as Trustees of the Ulster Museum and the Ulster Folk Museum, and University staff often serve on Government and other committees, frequently acting as chairmen. The Vice-Chancellor of the University for the time being has, but for one brief period of about one year, been Chairman of the Advisory Council for Education since its establishment in 1948. Moreover, Queen's University has four parliamentary representatives in the Northern Ireland House of Commons.

Development proposals

64. During the period up to 1958/59 Queen's University had expanded slowly to a full-time enrolment of 2,691†, but between 1958/59 and 1963/64 the number of full-time students rose steeply to 4,315†, a rate of expansion much faster than that of universities in Great Britain. The intake of 1,026 students in 1962/63 exceeded the 1957/58 figure by 50·4 per cent., while the comparable figure for Great Britain showed that the universities there had by 1962/63 exceeded their 1957/58 admission figures by only 20 per cent. Furthermore, the full-time student population at the end of the academic year 1962/63 was 59·4 per cent. above the 1957/58 total, whereas in Great Britain the increase between 1957/58 and 1962/63 was 24·1 per cent. The Queen's University 1963/64 intake and enrolment increases over 1957/58 were 54·7 per cent. and 71·6 per cent. respectively.

65. The University expects a continued steady rate of growth throughout the quinquennium 1963 to 1968*, and its expansion plans are based on the

* The Northern Ireland quinquennia commence one year later than the quinquennia for universities in Great Britain.

† Including degree students at the Belfast College of Technology.

attainment of a full-time undergraduate and postgraduate student population of 4,750* by the end of the quinquennium. This figure is made up as follows:—

Arts†	1,360
Social Studies‡	235
Law	180
Medicine§	690
Science	1,230
Applied Science and Technology‖	785
Agriculture	97
Not allocated	173
Total	4,750

In the autumn of 1963 the University, for the first time in faculties other than the Faculty of Medicine, was unable to offer places to all qualified Northern Ireland applicants, and it became apparent that the proposed annual intakes of students to the end of the quinquennium would be inadequate. The University, therefore, agreed, at the request of the Ministry of Finance, to make an increasing number of places available each year during the remainder of the quinquennium, and the target figure for 1967/68 was revised from 4,750 to 5,170 students (excluding about 100 who would be housed in the Belfast College of Technology) provided that the necessary capital and recurrent grants became available. The Minister of Finance promised additional funds to the University for 1964/65 to initiate the increases and undertook to give further consideration to the University's needs for the later years of the quinquennium.

66. In evidence to the Committee the University expressed a wish to continue to do everything possible to meet the educational needs of Northern Ireland and of the United Kingdom as a whole and, in agreeing in principle to further expansion after the end of the present quinquennium, put forward proposals for 6,000 full-time students by 1973 and 7,000 by 1978, subject to adequate recurrent and non-recurrent grants being made available on the same scale as for universities in Great Britain. The following table shows the proposed build-up to 7,000 students:—

	1967/68¶	*1970/71*	*1973/74*	*1977/78*
Arts†	1,555	1,680	1,770	1,930
Social Studies‡	365	425	525	565
Law	245	275	290	305
Medicine§	740	860	900	900
Science	1,245	1,350	1,575	1,960
Applied Science and Technology‖	890	935	1,035	1,165
Agriculture	130	145	160	175
	5,170	5,670	6,255	7,000

* Excluding students in applied chemistry, chemical technology, pharmacy and textile technology at the Belfast College of Technology.
† Including education.
‡ Including economics.
§ Including dentistry.
‖ Excluding applied chemistry, chemical technology, pharmacy and textile technology.
¶ Revised figures: see Paragraph 65.

These figures include postgraduate as well as undergraduate students and assume that the average length of time spent at the Univesity will remain as at present. The University pointed out that, in view of the impracticability of forecasting accurately all relevant factors as far as fifteen years ahead, figures such as these could not be regarded as wholly final but that, nevertheless, they represented the best estimate which could be made at the time without prejudice to the question of what the ultimate size of the University should be. The University believed that an expansion to 7,000 full-time students by 1978 was the maximum possible without introducing a serious danger of deterioration in the standards of teaching, research and amenities for students and staff.

67. The University referred also to other factors which it thought could have a limiting effect on expansion. It considered, for example, that its student/staff ratio in 1962/63 was less favourable than the average for universities in Great Britain and that its problems of recruiting staff are in general greater than in Great Britain, because Northern Ireland seems to many to be a peripheral area. It pointed out also that, to accommodate the original figure of 4,750 students by 1968, a considerable building programme costing more than £8m. over the next five years was being undertaken ; and that a further very substantial building programme, which would have to include heavy expenditure on library and reading room facilities and on halls of residence, would have to be undertaken to accommodate an increase to 7,000 students. The expansion of the University was already being hampered by the difficulty of purchasing sites, and this problem could become acute.

68. We found a considerable difference of opinion within Queen's University about the optimum size of the University. Some of those with whom we had discussions thought that the University was already in danger of losing its corporate unity. Almost all expressed concern at the risks inherent in expansion and feared that any increase beyond the 1968 target figure of 5,170, without radical and expensive new plans, would severely damage the whole quality of university life. Others would be prepared to go to 7,000, or even to 8,000, if this would satisfy the demand for university places in Northern Ireland. Some preferred expansion to 15,000 students or over on the grounds that large departments attract able staff and have more scope and facilities for specialisation.

69. We did not find within the University any general trend of interest in a particular direction of academic development over the next decade or so. The tables above (Paragraphs 65 and 66) show the anticipated growth of student numbers up to 1968 and 1978 respectively, but these figures are based mainly on what the various departments of the University think they could each achieve rather than on a concerted policy or plan. Consumer demand, estimated by assessing either the numbers or the subject interests of qualified school leavers, is not reflected in them ; nor is any estimate of the kinds of graduate the Northern Ireland economy most needs.

THE JOINT AUTHORITY FOR HIGHER TECHNOLOGICAL STUDIES

The Higher Technological Studies Act

70. The Joint Authority for Higher Technological Studies* was set up under the Higher Technological Studies Act (Northern Ireland) 1954 and is responsible for the maintenance and equipment of the newly provided Ashby Institute near Queen's University. In this Joint Authority building, courses in electrical, mechanical and, to some extent, aeronautical engineering leading to degrees in the Faculty of Applied Science and Technology are held for students of Queen's University, and courses in the same range of engineering subjects leading to the Higher National Certificate and the Higher National Diploma are held for students of the Belfast College of Technology. The teaching is shared by staffs of the University and the College of Technology. Under the arrangement degree students are enrolled by the University and are subject to the same University discipline and control as all other degree students. Non-degree students remain students of the College of Technology, based wholly or largely according to the nature of their courses on the Ashby Institute, but still under the control of the College of Technology and of its Board of Governors and the Belfast Education Committee, to which the Principal is responsible.

Courses

71. In the context of the Act "higher technological studies" include part-time courses leading to a Higher National Certificate in electrical or mechanical engineering, together with endorsement subjects, and full-time courses of similar or higher standing; and university undergraduate and post-graduate courses in electrical and mechanical engineering. Since the Act was passed provision has been made for aeronautical engineering and engineering mathematics to be included in the courses covered by the Act. But other higher technological courses have not been included and they are conducted under the sole responsibility of the College of Technology. In addition to its normal four-year degree courses in engineering subjects, the University offers a sandwich degree course in electrical and mechanical engineering† under which students in industrial employment can take University courses (in the College of Technology) for two terms only in each of the first two years, the normal University courses being taken in the final two years. Outside University terms the students are given systematic training in the works and technical offices of their sponsoring firms. This sandwich degree course was formally introduced by Queen's University in 1959.

Students

72. In 1963/64 a total of 350 students were taking degree courses in electrical, mechanical and aeronautical engineering‡ and 667 students the Higher National Certificate and allied courses in the same range of subjects. These include courses leading to Higher National Certificate endorsements which give exemption from the examination requirements of professional institutions.

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* Appendix III, 1.
† Appendix III, 2(*a*).
‡ The Department of Aeronautical Engineering is not housed in the Ashby Institute but certain parts of the courses in aeronautical engineering which are closely related to the courses in mechanical engineering are given in the Ashby Institute.

The number of Higher National Certificates awarded increased from 54 in 1955/56 to 113 in 1963/64. The estimate of maximum enrolment for degree courses in the Joint Authority building was 820 students and for Higher National Certificate courses 950 students. Changes in the standard of entry to National Certificate courses, and the likelihood that some students may choose to take a Higher National Certificate course in production engineering, which is not a subject of the Joint Authority, instead of the mechanical engineering course may alter the numbers. Furthermore, a full-time Higher National Diploma course in electrical engineering has just been introduced, and a similar course in mechanical engineering is, we understand, to be introduced in 1965.

THE BELFAST COLLEGE OF TECHNOLOGY

73. The Belfast College of Technology has occupied its present building in the centre of Belfast since the College was founded as the Belfast Municipal Technical Institute in 1907. This building originally housed all the work carried out by the College, but in recent years some departments have moved to new buildings. The College of Technology participates in the work carried out at the Ashby Institute through its representation on the Joint Authority for Higher Technological Studies. Advanced work still carried on in the main College building is in mathematics, production engineering, marine engineering, naval architecture, physics, applied chemistry, pharmacy, textile technology, and management studies. Craft and technician courses in automobile and mechanical engineering and in building were transferred to new premises near the main College of Technology building in 1963, and the Department of Commerce and courses in other departments in, for example, electrical engineering, navigation and marine radio, are temporarily housed in branch establishments in several parts of the city. The Belfast College of Domestic Science also shared the main building until it moved to new premises in 1962. Part of the main building is still occupied by the Belfast College of Art for which new premises are under construction.

Administration

74. The College of Technology is managed by a Board of Governors containing representatives of the Belfast, County Antrim and County Down Education Committees and of the Association of Northern Ireland Education Committees, Queen's University, local industry and commerce, trade unions and professional institutions. The Board acts mainly as an advisory committee to the Belfast Education Committee but is particularly charged with responsibility for recommending appointments to the teaching staff and expenditure on equipment. The College is directly financed by the Belfast Education Committee, the Committee's expenditure, both current and capital, attracting grant from the Ministry of Education in the same manner as other local education authority expenditure.

Courses and students in higher education

75. The Belfast College of Technology is recognised by Queen's University for the teaching of degree students in applied chemistry, chemical technology, pharmacy and textile technology, Undergraduate students taking these subjects, of whom 88 were engaged on full-time courses in 1963/64, are taught and examined in the College by members of the College staff who are recognised teachers of Queen's University. The College also provides full-time

courses leading to the external B.Sc degree of the University of London in mathematics and physics and, for part-time students, to the external B.Sc. (Special) degree in chemistry of that University. In 1963/64 there were 9 students enrolled for the full-time courses and one for the part-time course. Research work leading to both M.Sc. and Ph.D. degrees is at present being carried out in chemistry, pharmacy, physics and textile technology by 8 full-time and 15 part-time students.

76. In addition to the Higher National Certificate courses in electrical, mechanical and aeronautical engineering for which the College is responsible under the Joint Authority arrangements, Higher National Certificate courses are provided in the College in chemistry, production engineering, building, civil engineering, naval architecture, applied physics, applied biology and business studies. The number of students enrolled in these courses in 1963/64 was as follows:—

Subject	*Students*
Chemistry	55
Production Engineering	38
Building	10
Civil Engineering	46
Naval Architecture	26
Applied Physics	10
Applied Biology	16
Business Studies	56
Total	257

The number of students entering these courses has increased considerably in recent years, from 34 in 1955/56 to 149 in 1963/64, and there has been an even more striking increase in the number of Certificates gained which has risen from 9 in 1955/56 to 59 in 1963/64. Courses in these subjects leading to Higher National Certificate endorsements are also provided in the College building. In 1963/64 there were 51 students enrolled in such courses.

77. Other advanced courses, both full-time and part-time, are offered leading to various qualifications. In 1963/64, students enrolled in such courses were:—

Full-time courses for—

Masters Certificates (3 months)	23
Extra Masters Certificates (1 year)	7
Diploma of the Pharmaceutical Society of Northern Ireland (Part II course: 2 years)	32
Diploma in Management Studies (1 year)	7

Part-time courses for—

Associateship of the Textile Institute (4 years)	5
Diploma in Mathematics (2 years)	33
Diploma in Management Studies (3 years)	16

There are also courses in a wide range of subjects leading to Ordinary National Certificate and Ordinary National Diploma and to the examinations

of the City and Guilds of London Institute and of various professional bodies. A number of full-time and part-time classes in commercial subjects and languages with entry standard below the Advanced level of the General Certificate of Education and leading, for example, to awards of the Royal Society of Arts are also available.

Entrance requirements

78. The normal entrance requirements for the Higher National Certificate courses are that the students should hold an Ordinary National Certificate or Ordinary National Diploma. No limit is imposed on the numbers entering the courses mentioned and no qualified student has failed to gain admittance.

Staff

79. It can be assumed that staff of senior lecturer or principal lecturer grade are engaged almost entirely on advanced work, while staff of lecturer grade are partly engaged on it. In 1963/64 the full-time staffing establishment of the College, excluding the Principal and Vice-Principal, was as follows:—

Heads of departments	11
Principal lecturers	3
Senior lecturers	26
Lecturers	74
Assistant lecturers	71
Total	185

Student amenities

80. Students amenities within the College are extremely limited. Degree students, however, have access to the social amenities and activities of Queen's University, but they share with students of some other University departments the inconvenience of being some distance from the Students' Union. Although the College attracts students from all over Northern Ireland, it has no residential accommodation. Nor has it any playing fields of its own.

Development proposals

81. The removal from the Belfast College of Technology building to the Joint Authority building of all work at degree or Higher National Certificate level in electrical, mechanical and aeronautical engineering, and the transfer to new premises of work at craft and technician levels, led the College authorities to a reconsideration of the future of the remaining courses still accommodated in the main College building. All advanced work, it was considered, should be separated from craft and technician courses and housed and equipped to the standard of the Colleges of Advanced Technology in England and Wales. Since the present building could not be adapted and converted adequately for the purpose, it was proposed that a new School of Applied Science and Technology* should be established which would undertake all degree and Higher National Certificate work in applied science and technology other than that provided by the Joint Authority. The departments of the proposed new School would be those

* Appendix III, 3.

of the existing College together with new departments for such additional subjects as might be needed (e.g. structural engineering and building) and possibly a department responsible for the training of technical teachers. In addition it was proposed that the School should exercise the present responsibility of the College of Technology for advanced non-degree courses in electrical and mechanical engineering in the Ashby Institute. The proposal envisaged the new School as having part-time as well as full-time students and providing facilities for research, particularly applied research related to local industry. The inclusion of part-time students was regarded as important in view of the close contact which they give with industry. As the School would be expected to attract students from all parts of Northern Ireland a new site would have to be found as near as possible to the centre of Belfast and large enough to accommodate academic buildings, playing fields and hostels.

82. Emphasis was placed on the importance of the new School maintaining strong links both with Queen's University and with local industry, not only in its teaching work but also in research and development work. It was suggested that the School should be administered by a fully independent Board of Governors appointed by and responsible to the Government, and that it should be financed by the Government in view of its intended responsibility not to Belfast only but to Northern Ireland as a whole.

OTHER TECHNICAL COLLEGES

83. The Larne and Coleraine Technical Colleges and Londonderry Municipal Technical College also offer some Higher National Certificate courses. Larne Technical College, which is housed in a modern and well-equipped building, provides Higher National Certificate courses in electrical engineering, mechanical engineering and chemistry, various Higher National Certificate endorsement courses, courses leading to the City and Guilds of London Institute final examinations, and to teachers' diplomas in commercial subjects, together with many other courses at craft and technician level. Londonderry Municipal Technical College and Coleraine Technical College offer courses leading to the Higher National Certificate in chemistry, and also to the City and Guilds of London Institute final examinations. The numbers of students enrolled for Higher National Certificates and the numbers of certificates awarded in 1963/64 at these Colleges were as follows:—

LARNE TECHNICAL COLLEGE

Subject	*Students*	*Certificates*
Mechanical Engineering	20	5
Electrical Engineering	19	5
Chemistry	2	1

COLERAINE TECHNICAL COLLEGE

Chemistry	4	1

LONDONDERRY MUNICIPAL TECHNICAL COLLEGE

Chemistry	5	2

A few other colleges provide courses for the first year of the Higher National Certificate, but students from them must complete their courses in Belfast, Larne, Coleraine or Londonderry.

THE BELFAST COLLEGE OF ART

84. The Belfast College of Art was a Department of the College of Technology until 1962 when it became an administratively separate College under a Board of Governors responsible to the Belfast Education Committee. New premises should be ready for occupation in about two years' time. Until then a full expansion of courses will not be attainable. The college provides a range of both full-time and part-time courses from craft and technician level to courses involving advanced work in architecture, fine art, textiles and fashion, three dimensional studies (ceramics, silversmithing, etc.), printing and graphic design, painting and decorating and interior design, printing trade subjects, and teacher training. It is not recognised in any subject for the Diploma in Art and Design. There is also a postgraduate course in town planning. The numbers of students engaged on advanced level work in 1963/64 were as follows:—

Associateship of the Royal Institute of British Architects—			
Third Year (Intermediate Examination)			27
Post-Intermediate Years	4th	11	21
	5th	6	
	6th	4	
Town Planning			20
Art Teacher's Diploma			16
National Diploma in Design			19

85. Presumably because the College of Art has only recently become independent of the College of Technology, its plans for the future are not clear and are directed mainly at obtaining recognition for the award of the Diploma in Art and Design in at least some subjects. We were informed that the present lack of recognition for this Diploma made it difficult for the College to recruit suitably qualified staff; and, conversely, that recognition could not be obtained without such staff. Another major difficulty was that the Art Teacher's Diploma obtainable at the College, though accepted in Northern Ireland, was not accepted by the Department of Education and Science for the award of qualified teacher status in England and Wales.

MAGEE UNIVERSITY COLLEGE

*History**

86. Magee University College was opened in 1865 as the Magee Presbyterian College and in 1879 became, with the Queen's Colleges, a teaching college of the Royal University of Ireland. The Royal University was dissolved in 1908. In 1909 Magee College entered into an association with the University of Dublin (Trinity College) and in 1951 was given limited recognition by the Queen's University of Belfast. Until 1953 it consisted of two departments—a Literary and Scientific (or Arts) Department and a Theological Department. In 1949 a Committee under the Chairmanship of Sir James

* Appendix IV, 1.

Acheson reported on the possible development of the College* and subsequently, by the Magee University College, Londonderry (Northern Ireland) Act, 1953, the Literary and Scientific Department was separated from the Theological Department, the latter becoming the Magee Theological College and the former the present Magee University College. Although the Theological College and its President's House are contiguous with the University College grounds and some of the hostels are shared by students enrolled jointly in both Colleges, the two Colleges are administratively quite separate. We are not concerned with the Theological College.

Government and administration

87. Under the Act of 1953 the government of the College is divided between the Trustees and the Faculty which each have separate functions. The Trustees handle the College's financial affairs and manage the endowments and property, have power to exercise authority over administration, disciplinary arrangements, etc., and can dismiss or suspend professors, lecturers and other officers of the College. The Faculty, which consists of the professors, is entrusted with the internal government of the College and exercises academic authority. It regulates the admission of students and is responsible for their general conduct. Since not all heads of departments are professors, the Faculty delegates most of its business to a General Purposes Committee consisting of all heads of departments.

88. The normal university tradition of having the teaching body represented on the main governing body does not obtain and, because of the lack of any formal link between the Trustees and the Faculty, informal arrangements have been made. The chief administrator of the College, the President (whom the Trustees appoint from among the members of the Faculty after consultation with it), and another professor are invited to attend the meetings of the Board of Trustees, but they are not members of either. Since 1963 a co-ordinating committee of Trustees and Faculty representatives has also been operating. The general organisation of the College is carried on through various other committees, the most important of which are the Board of Studies and the Selection Committee. The latter Committee, which makes all appointments to professorships and lectureships, includes a representative of Trinity College, Dublin, and a member of the Academic Council of Queen's University, Belfast. There is a Registrar and a Finance Officer. The former is responsible both to the Trustees and to the Faculty. At the invitation of the Trustees, Deans of Residence have been nominated by the main religious denominations.

Courses

89. The College is unable to award its own degrees, but attendance at the College courses is acceptable as part of the requirement for degrees of Queen's University and the University of Dublin (Trinity College) respectively. The University of Dublin courses are normally four-year courses and the Queen's University courses three or four years. Students intending to graduate at Queen's University may read either for the B.A. or B.Sc.(Econ.) degree and spend their first academic year in Londonderry. They present themselves

* Report of the Committee on the possible development of Magee University College. Cmd. 275. Belfast H.M.S.O., 1950.

for the Queen's University examinations at the end of that year, the remaining years of the course being spent at Queen's University. Students intending to graduate at the University of Dublin may read either for the B.A. or B.B.S.* degree. Those proceeding to the B.A. degree and taking the General Studies (pass degree) course attend lectures at Magee University College during their first two years and the first two terms of their third and fourth years and take the remainder of the course at Trinity College, Dublin. Students taking the ordinary course in Natural Sciences spend their first three years at Magee University College and their fourth year in Dublin. Students following honor courses or the course for the B.B.S. degree take their first two years in Londonderry and their two final years in Dublin; but, in the case of honor students other than those taking Natural Sciences, the first two terms of the third year may be taken in Londonderry. Almost half of the present student enrolment is following University of Dublin honor courses.

90. The arrangement with Queen's University never took root. Only a small number of students have taken advantage of it over the past twelve years and none in the past two. This has been ascribed to the fact that students can spend only one year at the College and find it disrupting to their academic and social life to have to settle in again elsewhere at the beginning of their second year. But in any case, we were informed, the staff had experienced difficulty in running different courses in the same subjects for two universities. In recent years two separate informal approaches had been made to Queen's University, suggesting that Magee University College might be given recognition for a full three-year course in Arts and might therefore be able to offer a full degree course. On the second occasion, Queen's University appeared ready to consider the proposal but put forward a number of conditions, the most formidable of which was that the College would have to be able to offer the University's full range of subjects in the Faculty of Arts. This was obviously impracticable because the College would then have had to employ staff who were qualified to take courses for which no students might come forward, and the proposal was not pursued.

91. There have also been practical difficulties in running courses leading to degrees of the University of Dublin. For example, curricula are decided in Dublin and the Magee College staff have been unable to influence the nature and content of courses. This became significant with courses such as those in Business and Social Studies which are related in part to the social, political and economic structure of the Irish Republic where circumstances are different from those in Northern Ireland. As in the arrangement with Queen's University the students are unsettled by having to change their environment during their course.

Entrance requirements†

92. The general entrance requirements follow the normal United Kingdom pattern but are based on a minimum of six passes in examinations for the General Certificate of Education including at least two at Advanced level. Degree students must also satisfy any special requirements applicable to the course selected. No minimum age of entry is prescribed but, of the

* Bachelor in Business Studies.
† Appendix IV, 2.

first year full-time undergraduates in 1963/64, 5 per cent. were under 18 on 15th October, 1963, 43 per cent. were 18 but under 19 and the remaining 52 per cent. were 19 or over. Calculated at 1st January, 1964, the proportions were 2 per cent., 40 per cent. and 58 per cent. respectively.

*Students and student amenities**

93. In the 1963/64 academic year 102 undergraduate students, all full-time, entered the College and altogether there were 245 undergraduates (153 men and 92 women) enrolled. Of these 245 undergraduates, 141 came from within Northern Ireland—47 being from Londonderry County and County Borough—69 from other parts of the United Kingdom and 22 from the Irish Republic. The remaining 13 came from overseas. About 100 students are in residence in the College's five hostels but other amenities are inadequate. The College has sports grounds of 7 acres but there is no proper pavilion or gymnasium. Nor is there any communal meeting place for residential and non-residential students other than the common rooms in the hostels.

Staff†

94. The full-time academic staff totalled 27 during the academic year 1963/64. The salary scales of the academic staff are the same as at Queen's University except that the salaries of professors are linked with the top of the scale for senior lecturers. Lecturers who are heads of departments receive special allowances. Four of the staff took their first degrees at Queen's University, three at Oxford or Cambridge, 13 at other British universities, six at the University of Dublin (Trinity College) or the National University of Ireland, and one overseas. About half of the staff have held posts in United Kingdom university establishments other than Magee University College.

Buildings and site

95. The College occupies a pleasant situation on a site of about 20 acres overlooking the River Foyle. The main building contains lecture rooms, the library and the common hall. The refectory, departmental and administrative premises, some student hostels and staff houses are also within the College precinct. Other students' hostels are within a few minutes' walk of the main College building. Teaching accommodation is being strained by the increasing numbers of full-time students. Science courses have been introduced only recently and very limited science facilities are supplemented by sharing some laboratories in the Londonderry Municipal Technical College and Londonderry High School. The library has 60,000 volumes and it was pointed out to us that it is rich in nineteenth century English literature and in the history, literature and antiquities of Ireland; its collection of nineteenth century pamphlets of Irish history also contains much rare source material. Accommodation for the library is very restricted: there are reading places for only about 70 students and 12 staff.

* Appendix VII, Table 61.
† Appendix VII, Tables 63–67.

*Finances**

96. About two-thirds of the College's total income comes from the Government of Northern Ireland. This is paid partly through a small statutory grant of £2,500 per annum under the University and Collegiate and Scientific Institutions Act (Northern Ireland) 1938, and partly through a much larger extra-statutory grant given on a yearly basis by the Ministry of Finance. The Ministry is not, however, advised by the University Grants Committee as in the case of Queen's University. The remainder comes from endowments and fees. Capital works in recent years have been financed by the Government on an annual basis and from private endowments.

External relationships

97. The College provides evening classes in languages and other subjects for part-time students, and provides and assists in the promotion of public lectures and concerts in Londonderry. Generally and more informally its staff and students participate in a wide range of cultural and social activities. During the vacations, students of other universities living in the Londonderry area are allowed to use the library, and other persons not connected with the College who wish to pursue intellectual and cultural interests may become special readers.

Development proposals

98. Most of the development proposals submitted to us were based on the view that Queen's University could not grow sufficiently to meet the increasing demand for university places and that Magee University College, which already has a body of students, staff and buildings, should be enabled to expand. It was urged that the College should immediately be constituted a university by the granting of a Charter and should thereby become fully independent and grant its own degrees. In support of this proposal, it was argued that the College had been engaged on university work for more than 80 years and was now the only university institution in the United Kingdom in receipt of grants from public funds which was not able to take its students through a full undergraduate course to its own or a federal degree. Adequate development was not considered possible within the present type of relationship with Queen's University or the University of Dublin. The life of the College suffered from the lack of senior undergraduates and from the absence of postgraduate students. The staff felt frustrated by being unable to initiate or control courses and in being deprived of the satisfaction of taking students to the end of their courses and of conducting the more stimulating work of final honours years.

99. It was recognised as implicit in the request for full university status that the present constitution of the College and the arrangements for its administration would have to be radically changed. On the present trend of growth in student numbers the College expected to have not less than 550 full-time students by 1967, and suggestions were made about the nature of new courses which could be introduced. The College took the view that it should not seek to duplicate courses offered at Queen's University for which there would be a small demand but, subject to this, favoured as wide a range of subjects as possible, which should be balanced to serve the needs of the

* Appendix VII, Table 97.

community. A special plea was made for the inclusion of medicine because of the proximity of the new hospital at Altnagelvin. Within the Faculty of Arts, expansion would be expected to take the form of an increase in numbers reading existing subjects rather than a greatly extended range of courses, but it was suggested that the tradition of language study in the College should be reinforced by the inclusion of general linguistics. It was also suggested that extra-mural work should be extended.

100. Considerable physical expansion would be necessary to attain these ends and witnesses pointed out that, in addition to property already owned by the College, various sites available in and around Londonderry would be less costly than sites for comparable development in Belfast. It was accepted generally that the existing site and buildings are inadequate for expansion of the order necessary.

TRAINING COLLEGES

History

101. There are in Northern Ireland three general training colleges* and two specialist training colleges as well as the Queen's University Department of Education and the teacher training department of the Belfast College of Art. The general colleges are Stranmillis College and St. Joseph's and St. Mary's Training Colleges and the specialist colleges the Belfast College of Domestic Science and the Ulster College of Physical Education. St. Joseph's Training College is a men's college, and St. Mary's Training College and the two specialist colleges are women's colleges. Stranmillis College provides for both men and women. All are located in or near Belfast. Because of the lack of local training facilities in certain specialised fields, for example in the training of men teachers of physical education and of technical teachers, arrangements have been made with training colleges in England and Wales to take each year a number of students from Northern Ireland. In 1963/64 there were 27 such students.

102. St. Mary's Training College is the oldest of the general colleges. It was established in 1898 and opened in 1900 and was the only teacher training college operating in Northern Ireland when the Government of Northern Ireland was established in 1921. To make good the deficiency of facilities for teacher training a new interdenominational college was started which opened as Stranmillis Training College in 1922. Roman Catholic men students did not attend the new college after 1925, and between then and 1939 men teachers for public elementary schools under Roman Catholic management were trained at St. Mary's Training College, Strawberry Hill, Middlesex. Immediately after the second World War pressure on places at this College grew so much that a men's department was opened at St. Mary's Training College, Belfast, the first intake of students being admitted in 1945. This department was transferred to other premises in 1947, and in 1961 separated to become St. Joseph's Training College.

103. The Belfast College of Domestic Science began in 1907 as the Department of Women's Work of the Belfast Municipal Technical Institute, and in 1929 this department extended its activities to include a teacher training department. In 1933 it expanded its curriculum to include a course for institutional

* Appendix V, 1.

housekeepers, and in 1945 introduced training for the National Certificate of the Institutional Management Association. The College remained a part of the Belfast College of Technology until 1961, and in 1962 it removed to new premises on the outskirts of the city at Garnerville. The Ulster College of Physical Education was opened in 1953 at Jordanstown, near Belfast, to train women as teachers of Physical Education.

Government and administration

104. Although Stranmillis College is a Government foundation under the control of the Ministry of Education, its day-to-day management is in the hands of a Management Committee appointed by the Minister of Education. The Management Committee is, however, executive only to the extent to which the Ministry has devolved its powers. For example, while the Committee selects staff for appointment to the college, the actual appointment is made by the Ministry. Similarly promotions of staff are the Ministry's responsibility on the initiative and advice of the Committee. In July, 1964, however, the Ministry indicated that full responsibility in these matters would be transferred to the Management Committee. The Principal of the College attends meetings of the Management Committee in an advisory capacity.

105. The Roman Catholic voluntary colleges are managed by clerical Boards of Governors. Appointments and promotions of staff are made by the Governors subject to the approval of the Ministry of Education in each individual case. The Ministry concerns itself only with the the general staffing establishment and with the adequacy of the qualifications and experience of the proposed appointee. The Principals of the colleges can attend meetings of the Governors in an advisory capacity.

106. The Belfast College of Domestic Science is under the control of the Belfast Education Committee, but its day-to-day management is entrusted to a Board of Governors which has a function similar to that of the Board of Governors of the Belfast College of Technology*. The Principal attends meetings of the Governors in an advisory capacity. The staffing establishment is subject to the approval of the Ministry of Education but the Ministry does not approve individual appointments and promotions. The Ulster College of Physical Education is, like Stranmillis College, a Government foundation, but it is under the direct management of the Ministry of Education.

Courses, examinations and awards

107. The general training colleges provide two basic courses, one of three and one of four years' duration. The three-year course is directed towards work in primary schools. Students taking it concentrate either on the teaching of children aged 7 to 11 (Course A) or on the teaching of children aged 5 to 8 (Course C). Some Course C students prepare for work in nursery schools and classes. The four-year course (Course B) is directed towards teaching in secondary intermediate schools with a measure of specialisation in one subject such as science, mathematics, art, domestic science, commercial subjects, crafts, music, physical education or English with special

* Paragraph 74.

reference to speech and drama. There are also one-year courses for serving teachers who wish to gain a semi-specialist qualification or to study the teaching of backward children, a one-year course for graduates which is specially directed at the teaching of the student's academic subjects and at the type of school in which he proposes to teach, and a one-year course for holders of professional diplomas in music. While Roman Catholic graduates who wish to take a course of professional training mostly go to St. Joseph's or St. Mary's Training Colleges, other graduates generally take the course provided by the Queen's University Department of Education. This leads to the award of a Diploma in Education of the University as well as the Ministry of Education Teacher's Certificate, the latter being awarded to holders of the Diploma who satisfy the Ministry in practical teaching.

108. The Belfast College of Domestic Science provides a three-year course for intending specialist teachers of domestic science, and a one-year course for semi-specialist intending teachers from the general training colleges. It also provides a three-year course (with the same entry conditions as those for teacher training) leading to the Diploma of the Institutional Management Association, a one-year cook/caterer's certificate course, a two-year (part-time) hospital cook's course in co-operation with the Northern Ireland Hospitals Authority, a one-year practical housecraft course and various part-time courses. The Ulster College of Physical Education provides a three-year course for intending specialist teachers of physical education.

109. Subject to the general approval of the Ministry of Education, which secures comparability of standards, all the training colleges are responsible for their own curricula and organise their own examinations. The Ministry maintains a close association with the colleges through its Inspectorate and interests itself directly in the final examinations, its Inspectors acting as moderators and maintaining a general oversight over standards. There are no other external examiners. The final award is the Ministry's Teacher's Certificate, which entitles the teacher to recognition appropriate to the Certificate. There is, however, a probationary period of two years. The training colleges have little formal contact with the Queen's University Department of Education.

110. By arrangement with Queen's University, however, certain general training college students may follow a combined course of university study and professional training in which they take a general or honours degree at the University in subjects suitable for work in schools (e.g. English or mathematics) and follow this by a year of professional training either at one of the general training colleges or at the University Department of Education. Since university scholarships became more freely available as a result of the adoption of the main principles of the Anderson Report*, the combined course has become less popular and only 7 students embarked on it in 1963/64. Many students, even though eligible for university entrance, choose instead to take a non-degree training college course; and in 1963, of the 528 students admitted to the general colleges, 183 were in this category, 77 entering Stranmillis College, 51 St. Joseph's Training College

* Paragraph 35.

and 55 St. Mary's Training College. 15 students had been to Queen's University but had failed examinations. There are no degree course facilities available to students attending the specialist colleges; very few of these students, however, hold the minimum matriculation requirement.

Entrance requirements

111. Admission to the general training colleges and the Ulster College of Physical Education is controlled by statutory regulations. The most recently published regulations*, which will come into operation in 1965, prescribe the minimum age of entry at 18 on 1st October in the year in which admission is sought, make requirements governing the health and physical capacity for teaching of candidates, and set out the qualifications required of the various categories of intending students. Applicants of normal age (i.e. those between 18 and 21) must have English Language or English and at least five other subjects in the General Certificate of Education at Ordinary or Advanced level in certain subject groups. The minimum acceptable standard is determined by the Ministry of Education and is such as the Ministry considers necessary for a man or woman entrant, as the case may be, to the college to which the candidate seeks admission. The regulations prescribe special conditions for graduates and other applicants of mature age (i.e. those of 21 or over) and for candidates seeking admission to the Ulster College of Physical Education. Where the college considers an applicant unsuitable, he or she is interviewed again by a board composed of representatives of the college and of the Ministry. Somewhat similar admission conditions are applied by the Belfast College of Domestic Science.

Students and staff

112. The student enrolment of Stranmillis College has increased from 382 in 1947/48 to 1,135 in 1963/64 and the staff from 30 to 98. The total of 1,135 includes 40 students from England and Wales and 30 Commonwealth Bursars. All but one of the remaining 1,065 students came from Northern Ireland. Of the total student body in 1963/64, 485 lived at home, 283 were resident in college hostels and 367 were accommodated in lodgings.

113. The student enrolment of 266 men and women at St. Mary's Training College in 1947/48 increased in 1963/64 to 302 men at St. Joseph's Training College and 396 women at St. Mary's Training College. Of this total of 698, 696 were from Northern Ireland. Of the total student body at St. Joseph's Training College in 1963/64, 72 lived at home, 77 in college and 153 in lodgings. The comparable figures for St. Mary's Training College were 75, 103 and 218 respectively. The 1963/64 staff of both colleges totalled 53 compared with a staff of 17 at St. Mary's Training College in 1947/48. Some of the staff are shared between the two colleges.

114. Between 1947/48 and 1963/64 the total number of students at the Belfast College of Domestic Science increased from 54, when the College was still housed in the Belfast College of Technology building, to 132, when the College had moved to its new premises. The same staff are responsible for both the teacher training and the other work of the College; and it is not possible to make an apportionment. Of the 132 teacher training students

* Appendix V, 2.

in attendance in 1963/64, 36 lived at home, 47 were resident and 49 lived in lodgings. The Ulster College of Physical Education had a staff of 6 full-time lecturers during 1963/64 and a total of 70 students in attendance, of whom 26 lived at home and 44 in lodgings.

Buildings and sites

115. Stranmillis College is situated in 46 acres of ground near Queen's University. The original Stranmillis House has been adapted as a residence for women students who are also housed in bungalow hostels, built in 1924, and in other hostels outside the College grounds. The present men's hostel, which is also outside the main site, became available in 1928. The main lecture block came into use in 1929 and has since been supplemented by other buildings, mainly post-War, some of which are temporary. The buildings are overcrowded but it is intended to provide new library, refectory, assembly hall and common room space and to improve the tutorial and administrative accommodation. Halls of residence for 450 students (men and women) and 30 members of staff are also being planned. New playing fields of some 30 acres have been acquired to supplement the original $3\frac{1}{2}$ acres, which have in part been converted into hard surface playing areas.

116. St. Mary's Training College occupies a site of approximately $3\frac{1}{2}$ acres about two miles from Queen's University and Stranmillis College and remained substantially in its original form until 1959 when adaptations and the building of a new wing gave additional teaching accommodation, an assembly hall and a new gymnasium. The provision of more teaching accommodation is now planned. There has been no additional permanent building at St. Joseph's Training College, which stands in 32 acres in the western suburbs of Belfast, since it came into operation as a separate establishment in 1961. New accommodation then provided included a wing containing 80 study bedrooms. A proposed extension will provide further teaching space.

117. The Belfast College of Domestic Science is located on a site of 17 acres about five miles east of Belfast city centre overlooking Belfast Lough. It has residential accommodation for 64 students. The Ulster College of Physical Education is situated at Jordanstown, on the northern outskirts of Belfast and overlooks Belfast Lough on the opposite side from the Domestic Science College. It is situated in 30 acres of grounds on which are laid out hard surface and grass playing fields (including supplementary playing fields for Stranmillis College) and hard courts for tennis and netball. The main building is a large Victorian residence to which extensions, including a gymnasium, have been added. A further extension is planned which will allow for an increase of about 50 per cent. in the number of students. It is non-residential.

Finances

118. Most of the current expenditure of all three general training colleges and of the Ulster College of Physical Education is met by the Ministry of Education, the annual cost per student for tuition being apportioned between a nominal fee of £50 payable by the student and a direct capitation payment to college funds. The capital costs of building at Stranmillis College and the Ulster College of Physical Education are a direct charge on the Exchequer.

Capital expenditure at the two voluntary training colleges attracts a 65 per cent. grant from the Ministry of Education. The Belfast College of Domestic Science is financed by the Belfast Education Committee, the expenditure of the Committee, both current and capital, attracting grant from the Ministry of Education. There is a nominal tuition fee of £50 payable by the student. Boarding fees in the general training colleges and in the Belfast College of Domestic Science are based on the current cost of boarding. Training scholarships, which in Northern Ireland are Ministry of Education awards and are assessed on the same basis as university scholarships, have a minimum value of £50 and are given to all Northern Ireland students in training whether in colleges in Northern Ireland or Great Britain.

Development proposals

119. The general training colleges welcome the possibility of a closer link with Queen's University, not only for the opportunity which such a link would give to better students of working for degrees of the University, but also because such a link would raise the status and standards of the colleges and of the teaching profession as a whole. But the welcome is extended with caution. All three colleges regard their existing courses for the most part as satisfactory and point out explicitly that their main function is, and must continue to be, to provide courses which have a direct relevance to the needs of the schools. They regard it as of overriding importance that, in any link with the University which may evolve, the colleges should continue to have no less freedom to experiment with new courses than exists under present arrangements. All regret the drop in popularity of the combined course which provides a modest supply of graduate teachers whose personal education at the University has been taken forward in subjects of direct relevance to school work. The decreasing popularity of the combined course has had the further regrettable effect of reducing to insignificant proportions the amount of postgraduate work being done. It was a major grievance in the colleges that those taking the postgraduate year at the training colleges received no University recognition for their training while those doing a comparable course at the University were awarded the Diploma in Education; and that the former, if they wished to take a B.Ed. degree, had first to take a Dip.Ed., which involved repeating work already done at the training college.

120. Views on future college management differed as between Stranmillis College on the one hand and St. Joseph's and St. Mary's Training Colleges on the other. The Stranmillis College Management Committee pointed to the unique position of the College as the only interdenominational general training college in Northern Ireland and to the responsibilities of the Ministry of Education, which the Ministry might consider it could fulfil only by retaining ultimate control over the administration of the College. Nevertheless the Management Committee hoped that the future administrative arrangements would be such as would give all training colleges a greater measure of independence than hitherto. St. Mary's and St. Joseph's Training Colleges were content with existing administrative arrangements under the general control of the Ministry of Education, and thought that the Ministry was the agent best suited to deal with educational matters in the context of primary and secondary intermediate schools under Roman Catholic management, and therefore with the training colleges. Both voluntary colleges were at pains

to make it clear that any development of teacher training arrangements in the manner recommended by the Robbins Committee* would not be acceptable to them unless their autonomy was respected. We found the same divergent attitudes among the three colleges on the arrangements for student admissions. The Stranmillis College Management Committee wished for complete autonomy and freedom, subject only to a prescribed minimum standard in terms of the General Certificate of Education, whereas St. Joseph's and St. Mary's Training Colleges preferred no change from the present method which was acceptable to, and could be understood by, the public at large.

121. Queen's University made the following proposals for closer co-operation with the training colleges:—

"(*a*) There should be made available for students in training colleges three types of qualification—

(i) a degree,

(ii) a diploma or certificate of education with the imprimatur of the University,

(iii) an ordinary certificate of qualified status.

(*b*) The best means of securing co-ordination between the bodies concerned with the training of teachers in making available the above three qualifications would be the establishment of an organisation which would be something in the nature of an institute of education or school of education, the members of which would be the teacher training colleges (which could appropriately be renamed "Colleges of Education") and the University's Department of Education. The governing body of the organisation would consist of persons nominated by the governing bodies of the colleges and the University respectively.

(*c*) Some students in the colleges would enrol for a degree of the University. An appropriate title for the degree might be Bachelor of Education and this would necessitate the renaming of the existing degree of Bachelor of Education in the Faculty of Arts. Students enrolled for the degree would pursue their studies mainly in their colleges under teachers recognised by the University and following a syllabus approved by the University, with external examiners appointed by the University.

(*d*) Other students in the colleges would enrol for a University certificate. Such students should have minimum University entrance requirements. These students would likewise pursue their studies in their colleges under recognised teachers, following a syllabus approved by the University. External examiners might not be needed in this case.

(*e*) Still other students in the colleges would enrol for ordinary certificates, the teaching and examining for which would be independent of direct University control, save such as would be exercised by the University's representatives on the governing body of the organisation.

(*f*) It is desirable for the satisfactory working of the scheme outlined above that the colleges should have full administrative and financial control of their affairs under a grants commission."

* Robbins Report: Chapter IX.

122. These proposals, which admit in principle a variety of kinds of joint operation between the different institutions concerned, were made without any formal approach to the training colleges about the possibilities of closer association and express what the University thinks is practicable. The University would welcome a closer association but would not be prepared in consequence to depress its academic standards. The content of the proposed new degree course had not been considered, but its approach would be pedagogic and therefore different in structure from present degree courses, and its content would probably cross traditional departmental boundaries. The existence of degree courses in the training colleges would probably attract students away from the University into the colleges, but only if they were initially attracted to teaching. This could be greatly advantageous both to the University and to the training colleges.

123. Like the general training colleges, the Belfast College of Domestic Science expressed the wish that those of its students (about 6 each year) who had qualified for admission to a university and who have the ability and interest to pursue their studies to degree level should be given an opportunity to do so. The academic subjects of the teacher training course were already studied to some depth, which suggested that a four-year course leading to a degree or to a Domestic Science diploma coupled with a Diploma in Education was feasible. The College would favour the introduction of a degree course which would cover the needs of institutional management, food service, nutrition and dietetics for catering, industry and commerce; a specialised degree course in nutrition was a possibility but had not had much consideration. Work for degree courses and professional training should, the College thought, all be done within the confines of the College, and no difficulties were anticipated in having some students studying for University degrees and others studying for diplomas or certificates. In addition to a degree course there was thought to be need for one-year courses for those who had completed the three-year diploma course, to be taken either on completion of the three-year course or later. The present lack of such supplementary courses meant that no progression in studies or careers was possible.

124. The Principal and staff of the Ulster College of Physical Education were not greatly interested in a closer link with Queen's University because very few of the students at any time had attained the academic standards required for university entrance. On the other hand some universities (e.g. Birmingham) recognised physical education as part of a general degree course, and the staff were not averse from joining in a University association if recognition was given to physical education as a subject. There was scope, they thought, for widening the course to cover training for welfare, youth leadership and other kinds of social work.

125. In addition to the development proposals submitted to us by the training colleges, we received a number of suggestions from other quarters about teaching and preparation for teaching. To many it appears that the machinery for the training of teachers is too narrow and specialised. Progress from childhood at school to the training college and back to school may take place with experience restricted to human contacts made only with others who are teaching or being taught. A person in this position becomes a teacher with little or no experience of the world at large, and with no opportunity

within the confined life of the training college of remedying his or her deficiency. Any arrangement, therefore, which could be made to extend the experience of intending teachers should be welcomed.

126. It was also pointed out to us that in Northern Ireland (and in Scotland) the concept of the qualified teacher as known in England and Wales does not exist. In England and Wales a teacher who is qualified to teach in any school is qualified to teach in every school, and the school authorities have freedom to determine what the teacher may teach without regard to the precise direction of his training college course or university degree. But in Northern Ireland there are precise limits within which the courses followed by the teacher and the examinations passed determine his recognition. Where recognition cannot be accorded, the regulations afford the Ministry of Education power to give permission to teach and, although the Ministry of Education exercises this power freely, any permission given is also limited in its scope. There is no suggestion that this system does not make for efficiency, but it has the disadvantage of stifling initiative on the part of teachers to refresh themselves and their pupils by moving to other fields within the profession and of breaking the profession into separate sections by type of school. The Advisory Council for Education recently reported on this matter*.

AGRICULTURAL EDUCATION

127. Agricultural education is a statutory responsibility of the Ministry of Agriculture to the exclusion of the Ministry of Education. Apart from its connexion with Queen's University, the Ministry of Agriculture itself runs three agricultural colleges—Loughry Agricultural College at Cookstown, and Strabane Agricultural School, both in County Tyrone, and Greenmount Agricultural and Horticultural College at Muckamore, in County Antrim. Only the first of these offers courses at higher education level. The others have four-month general courses for boys and girls of 16 or over, one-year general courses for boys of 17 or over, and a one-year specialised course in horticulture for boys and girls of 17 or over. No specific academic attainments are required for entrance to either of these colleges. All three colleges are organised and financed on an annual basis as part of the Ministry establishment and they are staffed by professional officers of the Ministry.

128. Loughry Agricultural College was opened by the Department of Agriculture and Technical Instruction for Ireland in 1908 as the Ulster Dairy School and was taken over by the Northern Ireland Ministry of Agriculture in 1922. In 1949 it was reorganised and assumed its present name. It offers a one-year certificate course combining poultry husbandry, dairying and general agriculture, and separate three-year diploma courses† in poultry husbandry and dairying leading to the Ulster Diploma in Poultry Husbandry and the Ulster Diploma in Dairying. Students in the diploma courses may, in addition, take the examinations leading to National Diplomas in these subjects. Minimum entrance requirements for the diploma courses are passes in six subjects at Ordinary level in examinations for the General Certificate of Education. The diploma courses at Loughry Agricultural College in the 1963/64 academic year were taken by 31 men and 9 women. Normally,

* "Recognition of Teachers".
† Two years for graduates.

graduates are not attracted to the courses since the College is not recognised by Queen's University as a centre for postgraduate study, but a few graduates have taken diploma courses after their appointment to posts requiring specialised knowledge.

129. The Ministry of Agriculture emphasised to us the importance of post-graduate specialisation and hopes, in association with Queen's University, to develop the two diploma courses at Loughry Agricultural College as post-graduate specialist courses in poultry husbandry and dairying leading to an M.Sc. degree. Recent developments in food processing, and the dependence on it of primary agricultural production, have created a need for diploma and postgraduate courses in this field also. As some of the equipment for courses of this kind already exists at Loughry, and as there would be a close connexion between the existing poultry and dairy courses and the proposed courses in food technology, the Ministry would wish to see the courses established there. The Ministry has also proposed the establishment at Loughry of a postgraduate course in agricultural communications for persons intending to seek employment in official and commercial agricultural advisory services. The Ministry regards Loughry as the most suitable location for this course because the framework of the course already exists there and because the location is central and, therefore, ideal for field research work in communication methods, and would help to keep the staff in closer touch with the farming community than if the course were located in Belfast.

TRAINING OF MEDICAL AUXILIARIES

130. About two-thirds of the medical auxiliaries employed at present in Northern Ireland are health visitors, physiotherapists, medical laboratory technicians and radiographers.* Training for these occupations is available in Northern Ireland, that for the health visitors being provided by the Royal College of Nursing in Belfast and that for the three remaining groups by, or under the auspices of, the Northern Ireland Hospitals Authority. The course for health visitors is a one-year full-time course open only to fully trained nurses, that for physiotherapists a three-year full-time course, that for radiographers a two-year full-time course and that for medical laboratory technicians a five-year course combining practical training during employment with instructional classes. Normal hospital training facilities are available for nurses in Belfast, Londonderry and 17 towns throughout Northern Ireland, and there are at present over 2,000 student nurses and pupil nurses in training, the average annual output being approximately 500 State Registered Nurses and 100 State Enrolled Nurses. Entrants to other medical auxiliary occupations receive their training outside Northern Ireland.

131. Queen's University provides a two-year course for the Diploma in Social Studies which is taken by the majority of social welfare officers employed by local authorities. Candidates for this course must be over 20 years of age and are normally required to satisfy the entrance requirements of the Faculty of Arts or the Faculty of Economics or the Faculty of Law. A two-year training course in general social work is being introduced in Belfast by the local education authority and the introduction of a similar course in Londonderry at Magee University College under the auspices of the National Council

* Appendix VI, ¶.2

for Training in Social Work is being considered. Because of the shortage of suitable supervisors of practical training, the capacity of the Belfast course will be limited at the outset to about 7 students per annum. No training facilities are at present available in Northern Ireland which would enable students to qualify as medical social workers (formerly known as almoners) or as psychiatric social workers.

HIGHER EDUCATION IN INDUSTRY

132. Many industrial firms in Northern Ireland encourage their apprentices and junior employees to attend local technical colleges for day release and evening courses leading to Ordinary or Higher National Certificates or other qualifications. One large firm provides practical training for graduates by means of graduate apprenticeships lasting for a period of two years after the attainment of a degree. These graduates are also encouraged during their apprenticeship to attend the Belfast College of Technology as part-time day or evening students for further studies of value in their employment. Only a few of the larger firms have sent students to the sandwich degree course in the Faculty of Applied Science and Technology of Queen's University*. Local industries are showing interest in the courses in business management studies recently introduced at the Belfast College of Technology. More recently Queen's University instituted a Chair in Management Studies. There are also courses in business studies at Magee University Collge.

* Paragraph 71.

CHAPTER V

UNIVERSITY DEVELOPMENT: SOME GENERAL OBSERVATIONS

133. In this chapter we review a number of basic features relevant to university development, both generally and within the closer compass of Northern Ireland. We deal with these at this stage rather than later because they impinge on and illustrate matters which we regard as fundamental to our later argument. There is no significance in the order in which we have set them out; nor do they lead from one to the other in any logical sequence. First, we consider relationships between university and community, then the extent and direction of the development necessary for Northern Ireland, and next we make some general observations on undergraduate and postgraduate work and on student interchange. Finally in this chapter we refer to several possibilities for university development as an introduction to an analysis in Chapter VI of the situation in so far as it affects Queen's University, and to the projection of the analysis towards a second university in Chapter VII.

Relationship of university and community

134. Although the State is becoming increasingly the main source of finance for universities, it is out of the question in our society that it should direct their actions in academic matters. Nevertheless, universities are national institutions and cannot isolate themselves from the world around them. To be healthy and progressive they must be sensitive to the needs of the society to which they belong. They must be aware of, and adapt themselves to, the responsibility which they have for providing the kinds of higher education most relevant to these needs. Their freedom lies in voluntarily assessing this responsibility to the community and in interpreting how it should be executed. In fact, as long ago as 1947, the Committee of Vice-Chancellors and Principals said that the universities entirely accepted the view that the Government has not only the right, but also the duty, to satisfy itself that every field of study which in the national interest ought to be cultivated is in fact being cultivated in the university system.

135. Professor Max Beloff, in commenting on the Robbins Report, has asserted that universities should have a greater regard for the practical requirements of their undergraduates in terms of subsequent employment and national needs and should arrange their courses more with these objectives in mind*. We agree with this point of view. There is no fundamental

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* " The most questionable assumption in the Report is that the system of higher education should be based on the principle of unlimited freedom of choice where the subjects to be studied are concerned. This attitude neglects the fact that as the area of recruitment to universities widens—as it should—the probability of the potential student getting useful guidance in his choice is likely to diminish. The authors ignore the lessons from many quarters of the dangers of open or concealed graduate unemployment. If the country requires more engineers, more doctors and dentists, more persons trained in the stiffer social sciences—economics in particular—why should it be wrong to spend public money on seeing that the country gets them rather than more and not quite so good students of Chaucer or the Patent Rolls or psephology? . . . Academic freedom means only three things: the right of the universities to choose their students according to recognised standards and to give degrees according to similarly recognised standards; the right of university teachers to teach the truth as they see it. Everything else is mere machinery." (" Second Thoughts on Robbins ". The Oxford Magazine, 7th May, 1964.)

reason why universities should not have practical as well as academic objectives in view. The Robbins Report, however, recalls that the ancient universities of Europe were founded to promote the training of the clergy, doctors and lawyers, and recognises that in our own times progress depends to a much greater extent than ever before on skills demanding special training*.

136. The traditional concept of higher education in the United Kingdom has been further widened by such developments as the lengthening of the teacher training college course from two to three years, the emergence of the Colleges of Advanced Technology and the Regional Colleges in England and Wales, and the growth of the Scottish Central Institutions. Rising standards of entry to these establishments have meant that universities are no longer the sole providers of full-time higher education. This widened concept of higher education, and the increase in the opportunities for students since acceptance of the principal recommendations of the Anderson Report in 1961†, have brought higher education, and universities in particular, more within the understanding and experience of the general public. Universities have increasingly become recognised as institutions to which young people of ability should naturally go as part of their preparation for life.

137. The fact that in Northern Ireland the total number of institutions of higher education is small in comparison with the number in Great Britain should make it easier in Northern Ireland to observe the emergence of this growing interest in university education, and should assist in the development of an increasingly co-operative relationship between universities and other institutions of higher education. The problems of university development and community needs are presented more sharply in Northern Ireland than in Great Britain where variations in size and outlook among universities tend to complement one another. The physical separation of Northern Ireland from the rest of the United Kingdom is a factor which makes the particular responsibility of the individual institution to the community around it greater in Northern Ireland than in Great Britain, but there should be significant compensation in the possibility of closer community understanding and support. The individual institution in Northern Ireland has, however, also a wider responsibility to the United Kingdom as a whole.

The extent and direction of development

138. We have already estimated a need for at least 12,000, and possibly 13,000, full-time undergraduate and postgraduate university places by 1980. Although we have been unable to project the manpower requirements of the Northern Ireland economy for all professional needs, we have tried to make broad assumptions on probable directions of economic development. In our study of the future enrolment estimates of Queen's University we were impressed by the higher rate of expansion proposed for technology, though admittedly based on a smaller number of students, than in the case of arts and pure science. We welcome this expression of willingness to meet what must have appeared to the University and what we agree to be a public need, notwithstanding the discouraging response so far in terms of student numbers coming forward. There is an insufficiency of young graduates broadly educated in science and technology; and, subject to reservations on the duration and content of undergraduate courses and on the relationships

* Robbins Report: Paragraph 25.
† Paragraph 35.

between undergraduate and postgraduate work, there should be a much greater emphasis on these disciplines. This is particularly desirable if Northern Ireland is to hold its proper place in an increasingly competitive industrial world.

Content and duration of undergraduate courses

139. Present conditions of educational expansion demand a minimum of two years in the sixth forms of grammar schools so that, upon entry to a university, the student will have attained an appropriate academic standard and maturity. There are grounds for concern at the increasing overlap between what is taught in the upper forms of grammar schools and in first year work at Queen's University. It was represented to us from sources within Queen's University that the four-year degree course could not be reduced to three years because the standards of students on entry were not as high as in Great Britain. This is difficult to understand since the minimum matriculation requirements for Queen's University are substantially the same as those of other United Kingdom universities. Furthermore, the Northern Ireland General Certificate of Education is acceptable to all United Kingdom universities on the same basis as Certificates of the recognised examining bodies in England and Wales. We hope that Queen's University will reconsider the content of the several undergraduate courses at a very early date so as to reduce overlap to a minimum. We think also that it must be frustrating to an able student not to embark directly on an honours course immediately upon admission to the University.

140. A first degree course should be designed to stimulate intellectual curiosity and initiative but should also prepare the student for as wide a range of employment opportunities as possible. With the horizons of knowledge steadily widening there is a danger of courses becoming so overloaded with factual material that these essential aims will be defeated. Science courses at present tend to be too narrowly specialised and arts courses tend to be insufficiently vocational. We would prefer that graduates in both arts and science should have followed a broadly based and interwoven type of education. The graduate can later orientate himself towards specific employment by postgraduate study.

*Postgraduate work**

141. Postgraduate work may take several forms. It may be research or training in research leading to a master's degree or doctorate. Or it may be a course of instruction leading to a master's degree or a diploma. Or it may be professional training superimposed on a first degree course. We have not concerned ourselves with courses which are postgraduate in time rather than in standard: for example, courses leading to unrelated second first degrees.

142. Postgraduate activity is a good indicator of the academic vitality and quality of a university. The Robbins Committee has estimated that the proportion of United Kingdom graduates who at some stage go on to full-time postgraduate study at universities in Great Britain should, by 1980, increase from the present 20 per cent. to about 30 per cent., and has

* References in Paragraphs 141–144 exclude diploma or degree courses in education. See also Paragraphs 49 and 178.

indicated that "the general reason for demanding a rapid increase in the numbers going on to postgraduate work is that the enormous extensions of knowledge in all fields of study have made it impossible for a student to master more than the rudiments of his subject within the limits of a first degree course."* The proportion of full-time postgraduate students at Queen's University expressed as a percentage of the total number of full-time undergraduate students has been increasing over the past few years but by 1963/64 had reached only 7·5 per cent.† A general shortening of undergraduate courses to three years would stimulate the participation of students in postgraduate courses and in training for research. Increased provision should be made for part-time as well as full-time postgraduate work as part of the University's social responsibility.

143. Some kinds of postgraduate training are most appropriately taken immediately after the first degree ; others may be more profitably taken after some years of experience in the outside world. Apart from training directed towards particular careers and professions there is need for postgraduate courses to supplement the basic knowledge acquired in first degree courses. In both pure and applied science new techniques are constantly being devised and developed, and training in their application is a potentially powerful influence on industrial progress. We were glad to find that the engineering departments of Queen's University would welcome a considerable increase in the number of students proceeding to a master's degree by examination in the more important and specialised topics of engineering. Furthermore, developments in the borderzone between fields such as the physical and biological sciences, or social studies and history, make it necessary that those who have graduated in one field should be enabled to acquire competence in the other and to see the studies they have been engaged in at first degree level from a different angle. For example, means should be available to enable mechanical engineers to qualify as agricultural‡ or chemical engineers, physicists to become metallurgists, mathematicians to become psychologists, physical scientists to become social scientists, and so on. Such movements between university disciplines would greatly assist the wider employment of graduates. More graduates who wish to proceed to postgraduate study will, we hope, be encouraged to do so at a university other than the one in which they took their first degree.

144. Although we emphasise particularly the value of postgraduate courses of instruction we fully accept the view that "supervised research leading to a higher degree will continue to be the means by which postgraduate students capable of launching out independently arrive at their point of departure as rapidly as possible."§ We endorse the great educational value, for able students, of carrying out an independent piece of work with the stimulus and encouragement that good supervision gives. Postgraduate research work in universities affects the development of industry and can attract new industrial growth. But this objective can also be achieved through institutions associated with universities as well as through universities themselves. We think, for example, that there would be merit in having a Government Research Establishment associated with Queen's University and directed towards

* Robbins Report: Paragraph 290.
† Paragraphs 49 and 178.
‡ Paragraph 206.
§ Robbins Report: Paragraph 296.

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research for industrial development. Such an establishment could be an inducement to firms to establish themselves in Northern Ireland and could encourage research related to local industry. The new university which we recommend in Chapter VII should have specific objectives in various fields of postgraduate study and should have one or more research institutes associated with it also, possibly Government sponsored but at least Government supported.

Student interchange

145. We have examined the likelihood of substantially increased facilities becoming available outside Northern Ireland for Northern Ireland students. In Chapter IV we gave some figures showing the traffic of new students in 1963. More generally, at the present time some 6 per cent. of Northern Ireland full-time undergraduate and postgraduate students are attending universities in Great Britain and 12 per cent. universities in the Irish Republic.* These figures, like some of the figures in Chapter IV, are based on scholarship returns, the number of undergraduate students at least who are not in receipt of scholarships being insignificant. The latest available figures show, among full-time undergraduate and postgraduate students pursuing courses of study in Northern Ireland, an influx of some 5 per cent. from Great Britain and 7 per cent. from elsewhere. At the postgraduate level 40 students were attending institutions outside Northern Ireland during 1963/64 with support from public funds, and 93† from outside Northern Ireland were engaged in postgraduate work at Queen's University. The absolute numbers in this category are small and it would be dangerous to draw conclusions since no indication is obtainable of the numbers of Northern Ireland students who may be pursuing postgraduate work outside Northern Ireland without support from public funds.

146. Student interchange, especially within the United Kingdom, should be encouraged and present scholarship arrangements have this objective in view. Schools in Northern Ireland have traditionally supplied students to institutions in Great Britain and in recent years this movement has increased. Some Northern Ireland students go from choice, and others from necessity, because the university courses they wish to follow (e.g. architecture, veterinary science, chemical engineering, forestry and horticulture) are not available locally. The rapidly increasing pressure on places in Great Britain, especially during the mid-1960s bulge to which we referred in Paragraph 39, could well produce a substantially greater external demand for places within Northern Ireland.

147. The only higher educational institution outside Northern Ireland to submit evidence to us was the University of Dublin (Trinity College) which, we understand, is limiting its total enrolment to 3,000 students. Admissions from Northern Ireland were 130 in 1963/64 and we have assumed that the traditional flow of students from Northern Ireland to Trinity College is likely to continue. We are aware that a Commission has for some time been considering higher education in the Irish Republic.

148. In calculating the number of university places required in Northern Ireland it would be wrong to provide for a bare minimum on the assumption

* Appendix VII, Tables 12, 61, 86, 95.
† Including 18 who were taking diploma or degree courses in education.

that a predetermined percentage could permanently be supported outside Northern Ireland without Northern Ireland making a return contribution. Northern Ireland is part of the United Kingdom and must be expected to contribute to the total expansion within the United Kingdom. At the same time it will be beneficial to Northern Ireland to have more students, both undergraduate and postgraduate, from England, Scotland and Wales. Any strengthening of the desire of students from Great Britain to seek university education in Northern Ireland must result in an enrichment of student life*.

149. We feel similarly about student intake from overseas. In 1962/63 the percentage of overseas students at universities in Great Britain was 11·2 compared with a percentage of 6·7 for Northern Ireland. The percentages for 1960/61 were 10·8 and 9·8 respectively. To some extent the decline in the Northern Ireland percentage was due to the increasing pressure by local students in consequence of the Anderson Report. Northern Ireland should aim at returning to about 10 per cent.

Development possibilities

150. A major factor to be taken into account in any consideration of university development in Northern Ireland is the optimum size for Queen's University. The views of the Robbins Committee on university size give no clear guidance on this problem. The present population of Great Britain is 51 million and there are now in Great Britain 31 universities providing 120,000 places for full-time students. The Robbins Committee has estimated that 60 universities will be required by 1980 with a total of 350,000 places to provide for the needs of a population of 60 million. Northern Ireland with one university and one small university college, has a present population of 1·45 million, which by 1980 is estimated to increase to 1·65 million.

151. We considered to what extent a federal university structure might best meet the needs of Northern Ireland. One form of federation suggested to us was that Queen's University should become the Queen's University of Northern Ireland with other suitable institutions acting as constituent colleges and providing first degree and diploma courses and, perhaps later, postgraduate courses. The advantages claimed for this plan were that it would provide the required number of university places at standards guaranteed by Queen's University and that, by distributing the centres of university education, it would make university education more accessible to people living in the remoter parts, would enrich the cultural life of these parts, and would increase the number of people available for employment in the various professions outside Belfast. However, we favoured none of the federal suggestions put to us. Quite apart from the academic and administrative problems which federal structures can create, present trends in university development in Great Britain do not favour federation and suggest that it is better for a new institution to start on its own, but under appropriate guidance in the earlier years.

152. Several other ways of organising increased university provision were proposed to us. Among these proposals were the following:—

(*a*) That Queen's University should be expanded to provide all the university places required.

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* We refer in Paragraph 287 to the desirability of Northern Ireland universities joining the Universities Central Council for Admissions.

(*b*) That Queen's University should be authorised to expand to a predetermined limit, which could be the 7,000 limit proposed by the University or a somewhat higher or lower limit. In this case the balance of students could be provided for in any of several ways, for example:

(i) by the creation of a second multi-faculty university ; or

(ii) by the creation of a technological university which would absorb the higher education work of the Belfast College of Technology ; or

(iii) by the creation of a higher technological institution associated with Queen's University ; or

(iv) by the creation of two more universities, one of which could be a multi-faculty and the other a technological university ; or

(v) by the creation of a second multi-faculty university and a higher technological institution associated with Queen's University.

We examine various facets of these possibilities later.

CHAPTER VI

QUEEN'S UNIVERSITY

Optimum size

153. The Robbins Committee states that the optimum size of an institution must be determined by its educational function, its organisation and the availability of a suitable site. On educational function the Committee expresses the view that "clearly a university serving national needs and drawing students from all over the country has prima facie a need to be bigger than another institution that is concentrating on meeting the needs of an area". "We think", the Report continues, "that the large university department, the large faculty and the large institution have considerable advantages, both educational and economic. A large department makes possible research and teaching in a number of branches of the subject concerned. In most subjects the small department is now severely handicapped in postgraduate work . . . On the grounds of economy it is undoubtedly better to provide very expensive equipment in the pure and applied sciences for large departments and faculties than to spread it amongst a number of smaller departments . . . There are equally cogent reasons for economy on the side of the humanities. A library adequate to scholarly research is as essential to the efficient running of a university as an adequate range of computers, and, however far the technique of micro-filming may be carried, it is uneconomical to provide such libraries in a large number of small institutions". Two other comments are relevant: "that the tradition of small multi-faculty universities should be re-examined"; and "that many of the multi-faculty universities of this country should expand to accommodate 8,000 or even 10,000 students".* The general limits of size would, therefore, appear to be within a range of 4,000 to 8,000 students with exceptional cases of 10,000 students.† Although recent thinking has been moving towards the arguments for these upper limits, very large institutions are not, in our view, applicable in the particular context of Northern Ireland.

154. Despite all that is said nowadays in favour of large or very large institutions of higher education, there are very distinguished universities of between 3,000 and 5,000 students both at home and abroad. There is no proven optimum size. It is for each university to secure the organisation best suited to its purpose and needs. Factors which contribute to the educational well-being of any institution include its internal organisation, the site relationships of its buildings and the amenities associated with them; its staffing distributions, its accessibility to and relationship with other universities, with research institutions and with industry; its travel facilities and resources to enable staff to use them to the best advantage; and the relationships between town and gown in its region. All these do not point

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* Robbins Report: Paragraphs 467–471.

† Of the 31 universities listed in Table 9 of the Robbins Report, 18 (including 6 in process of formation in 1962) are shown as having 3,000 students or less and 5 as having 8,000 students or more.

to the inevitability of large universities but rather to the need for each university to use its resources—structure, facilities, courses, manpower and external relationships—to maximum advantage. It should not, therefore, be assumed that a university must be very large to be effective and efficient.

155. Belfast has one of the highest population densities and is one of the most congested cities in the United Kingdom. There are conflicting claims for every foot of land for industry, housing and open space. Although encroachment on the greenscape outside the Belfast stop-line might be permitted for recreational use and for botanical or similar field research purposes, intensive building could hardly be allowed for any institution. The present Queen's University site is such that even an expansion to 7,000 students would present major problems. If compulsory powers of acquisition existed, their exercise would involve vesting land at present occupied by housing which is in good condition, and the consequent rehousing of large numbers of families would give rise to acute social and human problems. Furthermore, the acquisition of sites in an already built-up area would be slow, and, in the context of university development in Northern Ireland, the time element is a most important consideration.

156. An expansion of Queen's University to provide for the whole of the future university population could probably be achieved only by distributing the University premises over a wide area. This would have serious disadvantages. Evidence shows that there is already some lack of cohesion and intimacy in many aspects of the life of the University. Departments are scattered and, even if sufficient buildings could be provided for between 12,000 and 13,000 students, serious problems of layout, traffic control and car parking for staff and student cars would arise ; and administration could become impersonal and would be difficult. Student facilities, even when present plans are completed, will be inadequate to provide for the target figure of 5,170 students by 1967/68. The supply of suitable lodgings in the University area is almost exhausted. The University halls of residence now in course of construction and planned will be at some distance from the main University building and from the new Students' Centre and will, as indicated in Chapter IV, provide only 800 places in supplementation of about 200 places in existing student houses and private halls. The nearest likely site for further halls is at a considerable distance beyond the present site and near the Belfast city boundary. In a university, interplay between faculties and between students and staff in common rooms, refectories, halls of residence and on social and recreational occasions is very desirable. The greater the distances that are interposed the more the interplay is weakened, and the individual units comprising the university tend to become isolated and to regard themselves as self-sufficient.

157. Apart from physical difficulties of site and the dangers inherent in dispersion—factors which could conceivably be controlled—there are other arguments against too great an expansion of Queen's University. Our concern is primarily with the educational function of the University in relation to the well-being of Northern Ireland as a whole. In considering " educational function " we have directed our attention to the area the institution serves as well as to what it teaches.* A single large university for the whole

* Robbins Report: Paragraph 469.

of Northern Ireland would be bound to increase disproportionately the centripetal attraction towards Belfast of the general life and economy of the country as a whole. At present the greater part of the higher educational and cultural facilities available in Northern Ireland are concentrated in Belfast. The trebling of the present size of Queen's University to the exclusion of development elsewhere would add very seriously to this imbalance and, what is worse, would prevent for a very long time any prospect of a remedy. Inevitably it would lead to further congestion within the Belfast area and to an increasing contrast in every respect between Belfast and the rest of the country. The only evidence we received favouring the unlimited expansion of Queen's University came from some sectors within the University itself, particularly scientific quarters where the ability to pool resources in large departments is an argument in favour of large size.

158. A further aspect of the problem is how best to achieve a balanced solution for Northern Ireland *as a whole* within the minimum period of time at the most reasonable cost. Even if it were practicable to acquire compulsorily the acreage which Queen's University would need for a properly planned development to an establishment of between 12,000 and 13,000 students, the cost in terms of land values in central Belfast and of compensation and subsequent development, probably involving high building, would be heavy.

159. We have come to the conclusion that university provision within Belfast should not significantly exceed the 7,000 student full-time maximum which Queen's University itself proposed in its provisional plan for the period up to 1978 ; and that the number of undergraduates in the total full-time student complement should not exceed 6,000. This view endorses the opinion of many witnesses that a university for 7,000 full-time students is as large as can be accommodated in the centre of Belfast, and is as large an institution as it would be wise to concentrate in a single part of Northern Ireland without detriment to possible and desirable developments elsewhere. We consider that the balance of between 5,000 and 6,000 full-time students for whom places will have to be found by 1980 should be provided for in a second university.

160. If Queen's University is not to expand beyond 7,000 full-time students, consideration must be given to the way in which this expansion should be achieved in the context of a total university full-time student population of between 12,000 and 13,000 in two universities and taking account of factors relevant to the general progress and development of Northern Ireland from a social and economic, as well as educational, standpoint. In this connexion the future direction and extent of technological studies is of fundamental importance.

Technological development

161. In view of the importance which we believe should attach to the expansion of technological education within Northern Ireland, we think it reasonable to estimate that by 1980 the number of students seeking qualifications at degree level in the several branches of technology and applied science should be between 2,000 and 2,500. During 1963/64 there were 251 full-time students at Queen's University reading for first degrees in civil engineer-

ing. In addition the following numbers of students were engaged on first degree courses within the scope of the Higher Technological Studies Act:—

Electrical Engineering	186
Mechanical Engineering	140
Aeronautical Engineering	24

During the same session students were pursuing Queen's University first degree courses at the Belfast College of Technology as follows:—

Applied Chemistry	5
Chemical Technology	27
Pharmacy	53
Textile Technology	3

The total number of 689 students in these courses, which are all full-time courses, is expected to increase substantially in the future. Thus, within its total student target of 5,170 for 1967/68, Queen's University is contemplating an increase of students in technology (other than students who would be provided for in the Belfast College of Technology) to 890, and, within its 1978 target of 7,000, an increase to almost 1,200. The University is of the opinion that it will be able, for a considerable time to come, to meet the whole demand in Northern Ireland for courses leading to degrees in engineering, and that there is no present reason to anticipate a sufficient increase in the numbers applying for entry to justify plans for a substantial expansion of the engineering departments. This would appear not to be commensurate with the trends of university expansion in Great Britain and with the future needs of the economic development of Northern Ireland. Corresponding estimates are not available for the branches of applied science and technology at present catered for by the Belfast College of Technology, and proposed for inclusion along with other branches as yet unprovided for in the School of Applied Science and Technology to which we referred in Paragraphs 81-82, but we understand that a substantial increase is intended.

162. The intimate inter-dependence of the different branches of technology, and the scale and cost of equipment for teaching and research, demand that, as far as is practicable, the necessary facilities should be concentrated. The essential close inter-relationship beween the study of technology and its practice within industry requires that this concentration should be in Belfast, which is bound to remain the largest and most comprehensive centre of industrial activity. Furthermore, because the existing facilities for technological education are already located there, the disproportionate cost of any other arrangement, and the breaking of essential practical working relationships with industry, could not possibly be justified.

163. The evidence relating to the development of technological education pointed overwhelmingly to Belfast. Proposals put forward by interested bodies for university development generally have been summarised in Paragraphs 150-152 and, in so far as these involve technological education, comprise the following possibilities:

(*a*) an expansion of the facilities at Queen's University, including those provided in electrical, mechanical and aeronautical engineering under the auspices of the Joint Authority ;

(*b*) the establishment of a new School of Applied Science and Technology in Belfast to replace the inadequate facilities of the College of Technology for advanced work in branches of technology and applied science not provided for by Queen's University;

(*c*) the extension of this School at a later date to permit the inclusion of non-degree work in electrical, mechanical and aeronautical engineering, which will be catered for meanwhile in the Ashby Institute;

(*d*) as an alternative to the proposal for a new School of Applied Science and Technology, the conversion of the College of Technology, within new buildings, into a technological university.

164. We have given careful consideration to these proposals and we see in them an unnecessary degree of academic and administrative complexity which could do considerable disservice to Northern Ireland. There seem to us to be two clear-cut alternative methods of providing the required number of university places in technology required:

(*a*) the establishment of a technological university alongside Queen's University which would cater for all branches of technology, including those at present available within Queen's University;

(*b*) the development within Queen's University itself of comprehensive facilities for technological education.

We shall consider each of these alternatives.

165. The concept of a technological university is consistent with the recommendation of the Robbins Committee that the Colleges of Advanced Technology in England and Wales should be raised to university status. Moreover, it could be argued that there is as strong a case for having a technological university in Northern Ireland, and therefore, on the previously stated considerations, in Belfast, as elsewhere in the United Kingdom. The critical question for Northern Ireland, bearing in mind the special circumstances of Belfast, is whether this is the most advantageous arrangement for the 2,000/2,500 students of technology and applied science whom we have in mind.

166. Several points are relevant. First, the new technological university would need to provide the branches of technology at present catered for by Queen's University. This would involve either duplication or a transfer of the present Queen's University facilities and staff. Although the accommodation of the Faculty of Applied Science and Technology, including that in the Ashby Institute, could possibly be used for other purposes after appropriate modification, it cannot be overlooked that this building has only just been completed and cost over £2m. Secondly, the new technological university would need departments of mathematics, physics, chemistry, and possibly the biological and social sciences, all of which would duplicate within Belfast the provision at Queen's University. Thirdly, there would have to be duplication, again within Belfast, of good library and adequate corporate, including athletic, facilities for the student body. These difficulties would be lessened, and to considerable educational advantage, if the new institution could be located within the same precinct as Queen's University and arrangements made for the joint use of appropriate facilities, such as the

Ashby Institute, and of staff. We feel, however, that such an arrangement would create its own problems and would lead to unjustifiable expense.

167. We favour the second alternative, the development within Queen's University of comprehensive facilities for technological education. This will require of Queen's University a readiness to accept as subjects of university study several branches of technology and applied science falling outside its present provision and to introduce new kinds of flexibility into its course arrangements where these prove to be necessary in the interests of the subjects and of the students concerned. We appreciate the magnitude of the problems which this proposal will pose for Queen's University and the demands which it will make upon the University. The inclusion of between 2,000 and 2,500 students of technology within a total full-time student body of 7,000 must mean a curtailment of the expansion at present contemplated for some of the other faculties of the University.

168. In addition to the existing branches of technology in the University, provision must be made for other branches such as those in production engineering, structural engineering and building, applied chemistry, pharmacy and textile technology, for which the School of Applied Science and Technology has been proposed ; and also for others yet to emerge which may prove to be of special significance to Northern Ireland.

169. We understand that the University would be prepared to introduce new technological subjects within its curricula provided that the standard of the courses and the entrance requirements are kept at normal university level. We welcome this willingness to extend the range of technological study. However, we think it important that entrance requirements at university level should not be interpreted to exclude flexibility based on a recognition that the preparation of students for participation in new technologies should not be constrained by the course structure and conditioned by the subject matter which has come to characterise the older technologies. Sir Eric Ashby has shown that, for a variety of reasons over the years, universities in Great Britain have only reluctantly accepted engineering as a respectable subject of university study*. This reluctance is now less significant ; and, indeed, the entry of the Colleges of Advanced Technology into the university system will ensure that appropriate provision for new branches of technological study will not be impeded by traditional prejudices. The only hesitation we have had in deciding to recommend that technological education in Northern Ireland should be catered for comprehensively within Queen's University rather than within a new technological university has arisen from our

* " It was difficult enough for British universities to adapt themselves to scientific thought; it is proving much more difficult for them to adapt themselves to technological thought. For pure scientific research is akin to other kinds of scholarship: it is disinterested, pursued for its own sake, undeterred by practical considerations or popular opinion. There is no great divergence between the attitude of the physicist towards the concept of entropy and the attitude of the philosopher towards the concept of virtue. But teaching and research in technology are unashamedly tendentious, and their tendentiousness has not been mellowed (as it has for medicine and law) by centuries of tradition. Technology is of the earth, earthy; it is susceptible to pressure from industry and government departments; it is under an obligation to deliver the goods. And so the crude engineer, the mere technologist (the very adjectives are symptoms of the attitude) are tolerated in universities because the State and industry are willing to finance them. Tolerated, but not assimilated; for the traditional don is not yet willing to admit that technologists may have anything intrinsic to contribute to academic life. It is not yet taken for granted that a faculty of technology enriches a university intellectually as well as materially. The attitude of universities towards technology is still ambiguous; until the ambiguity is resolved the universities will not have adapted themselves to one of the major consequences of the scientific revolution ". (" Technology and the Academics ". Macmillan, 1959.)

concern that Queen's University might approach this expanded and heavy responsibility with too little flexibility, and introduce reservations which in the event might make alternative provision elsewhere at a later date inevitable. We have noted, for example, the lack of progress in establishing effectively the sandwich degree course in engineering in sharp contrast with the development of sandwich degree courses in Great Britain. This provides an even stronger reason for a sense of urgency on the part of the University to establish and encourage further sandwich degree courses for engineers and technologists alongside the traditional full-time courses. We are asking the University to accept a very wide responsibility within the technological field and we are assuming that a second university will concentrate on subjects other than the technologies related to the industries of an urban environment.

170. We are convinced, as we have already indicated in Chapter V, that an undergraduate education in applied science and technology must come to be, and be regarded publicly as being, a desirable preparation for life, and not simply for vocational employment within a defined speciality. This will involve a considerable change in attitude within the schools as well as in the University and throughout the community at large, and will need vigorous leadership by the University.

171. Fulfilment of the responsibilities which we have outlined will involve more than the provision of courses at the undergraduate level in a wide range of applied sciences and technologies. It will become increasingly necessary to supplement undergraduate education by courses of postgraduate study, either following immediately upon the completion of a first degree course, or at a later stage after a period of training or employment, and varying in duration from a few days or weeks to a full academic session. The introduction and successful conduct of these courses will demand close collaboration with industry and the participation in university teaching of men whose primary work is in the practice of technology. We hope that Northern Ireland, under the stimulus of Queen's University, may be enabled to afford an outstanding example of partnership in this respect between the educational and industrial domains.

The Joint Authority for Higher Technological Studies

172. Expansion of facilities at Queen's University in the direction and to the extent which we suggest must inevitably have consequences for the Joint Authority for Higher Technological Studies. The Joint Authority arrangement as conceived a decade ago was a deficiency provision in a situation where the numbers of students forthcoming in electrical, mechanical and aeronautical engineering were limited, and in that context it was soundly based and justifiable. The arguments which led to its establishment aimed at co-operation between the Belfast Corporation and Queen's University at a time when no other method of either separating or combining the functions of the two bodies in these engineering disciplines seemed possible. In this sense the Joint Authority was primarily an administrative arrangement designed to link but not to weld its component parts. The very existence of the Joint Authority was apparently instrumental in provoking the proposal for the establishment of a School of Applied Science and Technology, a proposal which would perpetuate at degree level an undesirable separation of academically related subjects and would lead to some duplication of equipment and staff.

173. The implementation of the Higher Technological Studies Act of 1954 has given rise to a complex and confusing pattern. While the Act removed the difficulties under which Queen's University had previously suffered and from which it sought redress, it created difficulties for the College of Technology and, on the whole, merely shifted the burden of dissatisfaction from one partner to the other. Under the pre-1954 arrangements the University could well feel that its civil engineering was being conducted in undesirable and unhealthy isolation from the general body of its engineering courses. But a consequence of making the position less unsatisfactory for the University has been to restrict the College in the development of its work in electrical, mechanical and aeronautical engineering and to leave some of the College's other work in an isolated position. The arrangement is a compromise in which each side shares a common provision only in so far as precedent and financial expediency demand. Thus, the sandwich degree course in engineering is conducted by the University within the Joint Authority framework, but degree courses in chemical technology and in pharmacy are provided by, and in, the College of Technology. Non-degree courses in production engineering and naval architecture must be taken in the College of Technology, remote from mechanical engineering in the Joint Authority building, although there are obvious connexions and relationships between mechanical engineering and the others. Furthermore, the range of equipment appropriate for degree students is not necessarily the same as for work with Higher National Certificate students, a factor which will become of increasing significance as Higher National Certificate courses develop more as technician courses* and less as a route to professional qualifications. Moreover, the limitations of accommodation in the Ashby Institute would prevent an increase in the number of degree students unless accompanied by the removal of those engaged on non-degree work.

174. We have, therefore, come to the conclusion that the Higher Technological Studies Act should at the earliest appropriate time be repealed and the Joint Authority arrangement abandoned, the Ashby Institute passing to the exclusive control of Queen's University to be used only for university work. The consequences for non-degree work and the relationships between degree and non-degree work which are essential to the implementation of this recommendation are dealt with in Chapter IX.

Architecture and town planning

175. An arrangement has been made between Queen's University and the Belfast Corporation for the provision of courses in architecture† which closely resembles the Joint Authority arrangement. Authoritative opinion bearing on the training of architects is in favour of bringing architecture completely within the scope of university studies and is directed towards replacing the various part-time and external arrangements which at the moment are common in architectural education.‡ It is, therefore, now essential to reconsider the arrangement recently made. There could be an interim measure for the carrying out of course work in the new College of Art by arrangement between the College and the University, but the final transference of architecture to the University should be assured. The University should also provide courses in town and country planning.

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* Paragraph 264.

† Appendix III, 4.

‡ *Report on the Practical Training of Architects* by Elizabeth Layton. Royal Institute of British Architects, 1962.

The period immediately ahead

176. We now turn to some short-term problems which are related mainly to the establishment of a second university. A second university will require time to plan, time to build and time to grow; and, even if authorised with the speed which we regard as imperative, we doubt whether it could admit its first degree students before the autumn of 1968. Careful consideration must, therefore, be given to the intervening period, during which it will be necessary, for the sake of the young people coming forward, to ensure that the provision of university places keeps pace with the demand, and to prepare the way as far as possible for future developments. The situation is made more difficult by the bulge in the eighteen-year-old age-group* which, although presenting a relatively minor short-term problem locally, could cause an upsurge in the numbers of students from Great Britain wishing to come to Northern Ireland for university education.

177. So far as Belfast is concerned, the problem during this transition period appears to be threefold. First, both Queen's University and the Belfast College of Technology will each have to be prepared to continue to accept responsibility for some of the other's students until the University can offer a fuller range of technological subjects at degree level. The Ashby Institute will have to continue to provide accommodation for Higher National Certificate students in electrical and mechanical and aeronautical engineering to whatever extent may be required, and the Belfast College of Technology for degree students in applied chemistry, chemical technology, pharmacy and textile technology. Secondly, Queen's University will have to carry the main burden of the increasing demand for university places generally. Thirdly, the needs of the interim period must not engender expansion or development within Queen's University which might prevent the long-term programme from following the lines we propose. Short-term necessity should not frustrate more advantageous long-term development.

178. The Queen's University provisional plan up to 1970—which was revised at the beginning of 1964—allows for an expansion of the full-time undergraduate and postgraduate student body from its present size to a total of 5,170 in 1967/68 and 5,550 in 1969/70, provided that the necessary accommodation and finance are available. The totals are sub-divided among the different faculties as follows:—

	1963/64	*1967/68*	*1969/70*
Arts†	1,319	1,555	1,665
Social Sciences‡	207	365	405
Law	144	245	270
Medicine§	667	740	815
Science	962	1,245	1,340
Applied Science and Technology	732	890‖	915‖
Agriculture	94	130	140
Total	4,125¶	5,170	5,550

* Paragraph 39.
† Including education.
‡ Including economics.
§ Including dentistry.
‖ Excluding applied chemistry, chemical technology, pharmacy and textile technology.
¶ Total excludes 5 students in the Faculty of Theology and 5 taking the Diploma in Numerical Analysis.

We have suggested that, at full development, the student body, undergraduate and postgraduate, should not significantly exceed 7,000 and we consider that a reasonable apportionment of this number would be:—

Arts*	1,400
Social Sciences†	400
Law	250
Medicine‡	800
Science	1,800
Applied Science and Technology	2,000/2,500
Total	6,650/7,150

Several features in these tables call for comment:—

(*a*) Our proposed limitation of full-time undergraduates to 6,000 within a full-time student total of about 7,000 provides for about 16 per cent. of full-time undergraduates proceeding to postgraduate work. This is a substantial advance on the present figure of 10·6 per cent.§ We hope, however, that it will prove possible later to advance beyond 16 per cent.

(*b*) The inclusion of applied chemistry, chemical technology, pharmacy and textile technology in the Faculty of Applied Science and Technology will increase the number of students in that Faculty, but it is unlikely that its numbers or the numbers in the Faculty of Science will approach the maximum which we suggest for them until some considerable time after 1970.

(*c*) We propose in Chapter VII that university work in agriculture should be transferred to the second university.‖

(*d*) The only faculty which we think should be significantly smaller than in the University's provisional target is the Faculty of Arts. In the period immediately preceding the acceptance of its first students by the second university the demand for university places in Arts will be such that more than 1,400 students will probably have to be accommodated in Queen's University; but the number in the Faculty of Arts should be reduced to 1,400 as soon as places become available in the new university.

179. We recommend that Queen's University should be enabled and encouraged to proceed with its plan substantially as proposed up to 1970 provided that the University is prepared in the long-term to adjust its numbers to conform with our proposals. While many of the students entering the Faculties of Arts and Science of Queen's University will become teachers, we hope that the new approach which we propose for the second university, and in particular our suggestion that it should be possible for professional training for teaching to be merged with academic subjects in a degree course, will ease the pressure on places in the Faculty of Arts of Queen's University.

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* Including education.
† Including economics.
‡ Including dentistry.
§ Including students taking diploma or degree courses in education. See also Paragraphs 49 and 142.
‖ Paragraph 209.

180. We wish at this stage to refer briefly to the government and administration of Queen's University, which were designed when Queen's University was a very small institution in circumstances vastly different from those obtaining to-day. The Vice-Chancellor has established a working party to examine the arrangements for government and administration and we commend this as a first step towards reform. We consider that in some respects the government and administration are unsatisfactory under present conditions and that, if unchanged, they would have an adverse effect on future development. In particular we feel that the composition of the Senate and of the Academic Council, with their separate secretariats, leads to a dichotomy between the administrative and academic arms of the University which will become increasingly burdensome as the University grows. For the expansion and new purposes envisaged for the University some radical changes and reorientation would seem to be inevitable.

181. The willingness of Queen's University to accept challenges in the past, and its attitude towards its responsibility as almost the sole provider of university education in Northern Ireland for so long, encourage us to think that it will give whole-hearted support to these proposals. We are also confident that Queen's University will give generous assistance to the new university in its growing years. In the long run the two universities, existing side by side, will interact upon one another and will, we hope, stimulate each other's ideas and policies to the continuing benefit of Northern Ireland.

The need for a precinct

182. Finally in this chapter we wish to emphasis the overriding importance of providing Queen's University with a precinct large enough to ensure the close cohesion of its academic and corporate activities. We recognise the difficulties which it is already experiencing in obtaining land for development in close proximity to its present buildings. Even at its present size many aspects of its corporate life are suffering from the fragmentation of its accommodation, and we must leave in no doubt the serious consequence of any further dispersal which would inevitably aggravate the separation, both social and intellectual, between the students and staff of different departments. The solution does not simply lie in powers of compulsory acquisition. The problem is one requiring the closest collaboration between the University and the planning authority, which must accept fully that intangible but real harm will be done to the University unless an answer is found quickly. As a first step, and to secure the University's long-term interest, an adequate area should be designated as a University precinct to restrain competitive development pending the formulation of the University's own plans. If the planning authority cannot designate such a precinct under its present powers it should be given power to do so; and, furthermore, in so far as compulsory powers of acquisition are not available under existing legislation, they should be sought quickly and exercised where necessary as the University's long-term development proceeds. A procedure of this kind is necessary in the interest both of Queen's University and of the new university, which initially will require a site of sufficient dimensions to ensure that its later development will not be impeded through lack of space. It is also necessary in the interest of the "Ulster College" which we propose in Chapter IX.

CHAPTER VII

A SECOND UNIVERSITY

183. We now consider the academic function that a second university might fulfil; we advise on its location and on the arrangements for its establishment; and we discuss the effects of our recommendation on Magee University College. The creation of a new institution will provide a further cultural centre in Northern Ireland—in itself a desirable objective—and it should make for experimentation in less usual subjects and combinations of subjects and for challenges in excellence which are wholly beneficial to students and staff and to the community at large. Experimentation of the kind we suggest is often easier for a new institution, which is not circumscribed by traditional faculty barriers, than for an institution whose academic pattern has been established for a long time.

184. We regard the provision of a second university in Northern Ireland as a matter of the greatest urgency. Because Northern Ireland is small, and because there already is increasing pressure on university places, the provision of a new university is a much more significant development than the addition of one more university to the present total of 31 universities in Great Britain. The shortage of university places is aggravated in Northern Ireland by the particularly heavy impact of the recommendations of the Anderson Committee*. We estimate that, out of the 1980 total requirement of between 12,000 and 13,000 university places, between 8,000 and 9,000 will be required by 1973/74, of which about 6,000 should be provided in Queen's University and between 2,000 and 3,000 in the new university. An immediate decision to establish it is therefore, in our view, essential.

The philosophy

185. A new university, as well as satisfying the need for additional places, must be sustained by a philosophy. Changing social circumstances and the increasing dependence of universities on public funds have stimulated a new appraisal of the functions of universities. They must now seek a viable and vigorous compromise between, on the one hand, the pursuit of truth and the disinterested gaining, preservation and dissemination of knowledge and, on the other, responsibility, through the professions and industry and commerce, to the communities in which they exist and to the wider interests of society and the world at large.

186. Chapter VI deals with the need for a major development of technological education, preferably within Queen's University, at the centre of the Belfast conurbation and Chapter IX with essential related facilities at technician and other levels. Such a re-orientation of higher education in Belfast should have a complementary development in a second university situated somewhere other than in Belfast. The evidence of Queen's University expressed the hope that, if other institutions of higher education are established, a true diversification of higher education, rather than duplication, would be aimed at by

* Paragraph 35.

the provision of facilities in some respects of a different character from those provided by Queen's University, and that this provision would be planned in such a way as to supplement in the most appropriate manner the activities which Queen's University is undertaking.

187. We conceive it to be one of our functions to try to anticipate where some major advance in knowledge over the next 20 years might take place and to focus attention on this if it is likely to be profitable to Northern Ireland. We believe that it will be in the biological sciences—by which we mean the sciences of life in the widest sense—where the breakdown of the traditional barriers between different areas of knowledge will lead to fundamental advances; and that a university orientated in this direction could be in the forefront of progress. This is the kind of university which, within Northern Ireland, would best complement our proposed development of Queen's University and would best be suited to the contrasting location in which, being separated from the Belfast conurbation, it would have to be placed. Except for Belfast, Northern Ireland is an essentially rural community in which farming and its related industries account for a much higher proportion both of total population and of people employed than is the case in Great Britain. A second Northern Ireland university could be well to the fore in promoting studies based on the biological sciences, and within this wide field could select and develop its particular interests in whatever way experience shows to be the most advantageous. This could include developments relevant to the progress of agriculture and fisheries and the development of related new industries with obvious benefit to the economy.

A possible educational spectrum

188. Our proposal is for a second university of between 5,000 and 6,000 full-time undergraduate and postgraduate students by 1980. About 3,000, however, would afford a minimum base for the inter-disciplinary support which is especially necessary for science subjects. The university organisation should have regard to the general principles bearing on undergraduate and postgraduate study discussed in Chapter V. It is not our intention to recommend in detail how the curricula of a second university might develop (for that would be the task of an Academic Planning Board) but there are a few general observations which we wish to make.

189. We have visualised the study of the biological sciences as providing the most significant academic foundation for the work of the new university. Traditional subjects within this field include botany and zoology, physiology, biochemistry, biophysics, genetics and biostatistics. We believe that these should be regarded less as isolated subjects and more as related parts within a study of the biological sciences as a whole. The application of knowledge deriving from the study of subjects such as these should have a particular relevance in Northern Ireland to agricultural science and technology, to food processing, to soil study and, to an increasing extent, to forestry. In human and veterinary medicine also there is an obvious application, the latter having a particular relevance against the Northern Ireland economic background. We have also been very conscious of the potentialities of marine biology not as an incidental study but as a source of new knowledge

and of new economic wealth through a controlled harvesting of the seas. We use this term in its widest sense to cover the exploitation of all submarine resources.

190. A breadth of study in the biological sciences would require support from the physical sciences—physics, chemistry, mathematics and statistics. Environmental sciences such as geology, geography and oceanography would also be relevant. So too would the social and behavioural sciences, such as economics and management studies related in particular to agriculture and agricultural commerce; business administration mainly in terms of local conditions and problems; sociology and history; psychology and related subjects; and law and public administration directed particularly to the needs of central and local government in Northern Ireland. We would encourage the maximum possible association and inter-relationship between whatever subjects are finally adopted; "hybrid courses" involving the biological and physical sciences through the study of phenomena at the molecular level or the biological and social sciences, for example, in animal behaviour; and operational research specially directed at the general life and ecology of a rural community. The need to develop more concentrated agricultural production in a fuller consciousness of the demands of the balance of nature could make applied ecology, which so far has received little attention, one of the most profitable studies of the future. The way in which post-graduate work and research would develop would depend on circumstances, but the opportunities are many in the disciplines which we have listed.

191. The second university should also have a sound foundation for study of the humanities, not necessarily by duplication of the facilities available at Queen's University. We have depicted the scientific development of the new institution as a development with a practical objective. We would encourage a similar approach to arts stubjects in so far as this is possible. We would also like to make one small point of detail: in the study of modern languages more emphasis might be placed on languages as a support for other subjects, and language laboratory facilities could be employed to assist with research in linguistics. We have, moreover, distinctive proposals for the education of intending teachers, to which we devote Chapter VIII.

192. The educational spectrum we propose may therefore be summarised as comprising in the main:

(*a*) the biological and related pure and applied sciences;
(*b*) environmental and social sciences;
(*c*) the humanities;
(*d*) teacher education.

We do not think that any hesitation or anxiety about the prospects of graduate employment need be felt by intending students of the biological sciences. Apart from well-established fields such as medicine and agriculture, the range of biological sciences which we have indicated should provide many opportunities for research and industrial employment. We propose to make special comment on medicine, veterinary medicine and agriculture, partly because of the weight of evidence which we received about these subjects, and partly because of their importance in the application of any study of the biological sciences.

Medicine

193. We first consider medicine and the arguments presented to us both for and against a second medical school in Northern Ireland. Some witnesses have pressed for a second school mainly on grounds of decentralisation and diversification and the need for increased numbers. Others took it as axiomatic that Queen's University should be able to provide any additional facilities required.

194. The Queen's University medical school is certainly capable of expansion from its current output of some 60 doctors a year at least to its ceiling of about 100 a generation ago when traditionally it supplied not only local requirements but also sent graduates into the armed forces, to India, to the Colonial Medical Service and to Great Britain, particularly to the industrial North of England. For the first 25 years of the University's existence only 15 per cent. of its medical graduates remained in Northern Ireland, a proportion which increased in recent years to about 40 per cent. Nowadays there is less scope for employment outside the United Kingdom, although there has been a tendency for some Queen's University medical graduates to emigrate to the United States of America and to Canada. Up to 1939 the relatively high production rate provided a steady supply of house officers to fill the junior posts in Northern Ireland hospitals for the customary short period of about twelve months. But now, with a decreased output and the demands of the public health and hospital services, even the total supply is inadequate. Furthermore, the demand is likely to increase since within the United Kingdom as a whole many house posts are being filled by young graduates from overseas. But this is not a permanent source as the home governments of these students are tending to restrict emigration, partly for financial reasons and partly because some of these developing countries are rapidly establishing their own postgraduate training facilities.

195. Medicine demonstrates well the critical nature of the problem of trying to find a correct balance in the provision of higher education facilities within Northern Ireland for qualified young people coming from school. Not only has the potential supply of graduates to be weighed against Northern Ireland requirements, but so also has the supply against demand within the wider compass of the United Kingdom and overseas, bearing in mind always that, as far as is reasonably possible, an attempt should be made to meet the career wishes of young people. Medicine has for many years been one of the most sought-after undergraduate courses in Northern Ireland. While it would be wrong to encourage the production of doctors who might subsequently find difficulty in obtaining satisfying employment, it would be equally wrong in both the public interest and in the interests of students, to restrict student numbers in the light of Northern Ireland requirements only and without regard to the wider United Kingdom and world market. It is also important to remember that the greater expansion in the supply of qualified young people for higher education will be among girls and that girls may well show an increasing interest in medicine. The proportion of women among Queen's University undergraduates in medicine has been fairly static for many years at about 30 per cent. We think that the present disparity in numbers will tend to diminish unless there is a deliberate policy to limit the intake of women. Any such limitation would not be in the best

interests of society, especially if a more deliberate effort could be made to arrange part-time work for married women doctors.

196. From figures with which we have been supplied it appears that over the next decade the total output of medical graduates from Queen's University is likely to be about 750, of whom less than 700 will probably be available for employment in Northern Ireland. Estimated demand in Northern Ireland for this period is about 600. For the next decade therefore, notwithstanding that some graduates of universities other than Queen's University may enter medical practice in Northern Ireland, the Queen's University medical school may well reverse its traditional role and produce doctors mostly for service in Northern Ireland. With a shortfall in the production of medical graduates within Great Britain, and a surplus in the Northern Ireland pool of ability which could be inclined to a greater or lesser degree towards medicine, it is a matter for judgment whether more places should be provided in Northern Ireland than are represented by the 115 maximum 1969 intake presently planned by Queen's University. This maximum must, of course, include students from Great Britain, and also students from overseas for whom we think about 10 per cent. of the available places should be reserved in accordance with the general principles of student exchange outlined in Chapter V.*

197. The present intake to the Queen's University medical school of about 90 students a year should produce an output of some 80 doctors in six years' time in comparison with the present output of about 60, the wastage occurring mainly at the end of the first year. When the new pre-clinical building is ready in about three years' time the intake could, we understand, if necessary be increased quickly to 115 students. We understand also that, if sufficient staff were made available, it would be possible, though undesirable, to admit as many as 155 medical students. We think, however, that it would be inadvisable for the school to rise above an intake of 120 students, as it would then become difficult to maintain the present close relationships that exist between students and staff. If there is likelihood of the demand exceeding 120 students per year, then two schools are to be preferred.

198. The Northern Ireland Hospitals Authority, which, as indicated in Paragraph 55, has a statutory obligation laid upon it to provide adequate facilities, accommodation and equipment for the teaching of clinical medicine, is engaged on a large building programme with expenditure now reaching £3·3m. per annum. Much of the provision, however, has necessarily been directed towards the replacement of obsolete accommodation. The total number of beds in teaching and non-teaching hospitals at the end of 1963 was almost 17,000 as compared with 13,600 in 1948, the number of teaching beds being about 1,400. It is not anticipated that by 1975 the bed complement will have greatly exceeded the present figure.

199. We enquired in various quarters whether a new university as conceived by us could provide at least a first degree course suitable as a foundation for medical studies. The study of the basic sciences is of fundamental importance in medical training and enables doctors more readily to understand and apply advances in medicine. A degree course in human biology,

* Paragraphs 145–149.

which could cover such subjects as anatomy, physiology, pathology, genetics, bacteriology, psychology and sociology could, we think, offer not only a scientific base for clinical training in medicine but could provide a sound and useful general education for those engaged in all kinds of medical auxiliary work at graduate level. Already at Queen's University some medical students take a B.Sc. degree at the end of their pre-clinical years. We were informed that the General Medical Council has set up a committee to make further recommendations about medical studies (the Council establishes committees for this purpose at intervals of about ten years) and, as it is the practice of the Council to encourage experiment, the possibility of the recognition of an approach to medical studies by way of a three-year B.Sc. course including human biology, with the students not necessarily committed to or selected for medicine at that stage, should be borne in mind. This would have the added advantage of opening the way to a degree for a student who no longer felt disposed to proceed to clinical medicine after the pre-clinical years. It would also be in keeping with our belief that for many students specialisation should be deferred until as late as possible.

200. After most careful consideration we do not recommend the establishment of a second medical school at the present time. Our development suggestions for Queen's University in Paragraph 178 assume that the medical school there will continue to expand until its proposed limit is reached in 1969. As hospitals are planned over the years ahead the possibility of a second medical school should be borne in mind by the Northern Ireland Hospitals Authority and the Government departments responsible for hospital development in consultation with the authorities of the new university. It would be unfortunate if the provision of a medical school within the new university were later found to be precluded by a pattern of hospital distribution and organisation which had been developed without regard to the position of the second university. There is also the possibility that intending medical students might be enabled to graduate in science subjects at the new university and might later transfer for their clinical training to a teaching hospital or hospitals outside the area of the university.

Veterinary medicine

201. Veterinary medicine, our second subject for special consideration, also figured prominently in evidence. The Committee under the chairmanship of the Duke of Northumberland recently reported on the supply of veterinary graduates from veterinary schools in Great Britain in relation to the demands for veterinary services at home and abroad* and "stated categorically that an increase in the present number of veterinary schools could not fail to accentuate the staffing problems of the existing schools and to hinder their development along the lines which they themselves have in mind and which we consider to be essential".† The Committee understood that its view was supported by the Royal College of Veterinary Surgeons. In examining the position the Committee had regard to an expected annual output of 54 graduates from the veterinary schools of the University of Dublin and the National University of Ireland in view of the treaty relationship between

* Report of the Departmental Committee of Inquiry into Recruitment for the Veterinary Profession. Cmnd. 2430. London H.M.S.O., 1964.

† Northumberland Report: Paragraph 3.

the United Kingdom and the Irish Republic on the recognition of veterinary graduates and the practice of veterinary medicine. The future position of the two Dublin schools will, we anticipate, be reported upon by the Commission on Higher Education in the Irish Republic to which we referred in Paragraph 147.

202. The Northumberland Committee concluded that, if admissions to veterinary schools are maintained at present levels, "a fair equilibrium will exist between supply and demand in the next decade, provided that a due degree of prosperity is maintained and that the agricultural community remains healthy".* In reaching this conclusion account was taken of the extent to which the United Kingdom, for political, economic or other reasons, may wish or be enabled to provide veterinary manpower for developing countries. Commonwealth countries are now tending to develop their own veterinary schools. The Committee found that the total requirement of veterinary surgeons in Northern Ireland, including the requirements of private practice, and allowing for deaths and retirements and some increase in the demand for veterinary services, is approximately 10 per annum.† In our enquiries we found that the average output of Northern Ireland students from veterinary schools outside Northern Ireland has roughly coincided with this annual demand. Existing schools have, on average, been admitting about two-thirds of the qualified Northern Ireland applicants.

203. We are conscious of the importance of livestock production within the Northern Ireland agricultural economy. Some 90 per cent. of the gross agricultural output of nearly £115m. per annum is contributed by livestock and livestock products. The establishment of a veterinary school could, therefore, become justifiable, especially if it becomes clear that existing schools cannot satisfy the demand in Northern Ireland for veterinary graduates. But such a school, to be viable, would have to be based on an intake of about 30 students annually and it would, we think, be unwise to encourage young people into veterinary medicine beyond the extent to which there are employment prospects in Great Britain and overseas to supplement prospects in Northern Ireland. Notwithstanding our sympathy with the aspirations of Northern Ireland boys and girls who have grown up in a rural tradition and who wish to study veterinary medicine, we have not been able to convince ourselves of the immediate need for a capital outlay of about £1m. on a veterinary school coupled with running costs of a very high order. It might be possible, as a transitional measure, or even as a permanent measure, for arrangements to be made with one of the existing schools whereby part of the course—perhaps after the fashion envisaged for human medicine in Paragraph 199—could be taken in Northern Ireland. Such an arrangement might operate as an alternative to the intercalation of an honours science course which is suggested by the Northumberland Committee.‡ Should this be done, or in the event of a fully established school becoming justifiable, the necessary provision should be made in the new university. We express this view in the knowledge that a new veterinary research building is at present being erected in Belfast by the Ministry of Agriculture.

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* Northumberland Report: Paragraph 169.
† Northumberland Report: Paragraph 137.
‡ Northumberland Report: Paragraph 154.

Agriculture

204. Thirdly, we give special consideration to agriculture, which is a major item in the Northern Ireland economy. Since most of the food produced is consumed outside Northern Ireland and requires well-developed processing and marketing arrangements, the importance of educational activities supporting the development of agriculture in the widest sense cannot be too heavily emphasised. In our view the first degree course for intending agriculturalists should be broadly based on the pure sciences, particularly the biological sciences; and preparation for specialist employment should be by way of postgraduate courses We regard agriculture as a discipline which should form the basis of a general education as well as having a professional purpose.

205. The recent Report of the Committee under the chairmanship of Dr. C. I. C. Bosanquet on the present and future demand, at home and abroad, by agriculture (including horticulture), its associated industries and public services for graduates from agriculture or other faculties or departments of universities in the United Kingdom* reinforces this view and contains many other comments and suggestions which, we think, are relevant to agricultural education in Northern Ireland. The Committee considers that the increasing interest which some of the new universities intend to take in the biological sciences is a wholly desirable development.† The report says: "It is not for the university to produce . . . an expert in a first degree course lasting three years. This is not the nature of university education. In the case of agriculture or an agricultural science, the first degree course should be a stimulating education and should not be a training for practical farming or advisory work. This kind of training (as distinct from any practical experience that a university may demand in order to ensure that the student is in a position to obtain the full benefit from his degree course) should come afterwards. Agricultural education in a first degree course cannot be a narrow discipline.‡ . . Agriculture, taught to a high standard, can help to bridge the gap between science and the arts.§" This statement of objective is fully in accord with the educational spectrum which we think appropriate to a second university in Northern Ireland. The Bosanquet Committee expressed the fear that the ablest school leavers who want to go into science tend to be guided towards pure science, and thought "that schoolmasters should be more widely aware that agricultural science offers equal scope for the highest levels of mental ability.‖" The Report further suggests that, while a degree in agriculture "is not held out as a vocational course, the value to the industry (and hence to the country) of a sprinkling of farmers who have had a university education and who, in doing so, have acquired enough science to exploit the findings of agricultural research, is incalculable."§ We understand, however, that the few students entering the two types of undergraduate course in agriculture offered by Queen's University do so with a substantially vocational objective.

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* Report of an Interdepartmental Committee on the Demand for Agricultural Graduates. Cmnd. 2419. London H.M.S.O., 1964.

† Bosanquet Report: Paragraph 72.

‡ Bosanquet Report: Paragraph 65.

§ Bosanquet Report: Paragraph 66(ii).

‖ Bosanquet Report: Paragraph 68.

206. The Bosanquet Committee also believes that the answer to many of the shortages of agricultural specialists to which the Committee's attention had been drawn lies in more postgraduate courses of formal instruction, including M.Sc. courses with some content of systematic instruction.* There is a particular need for conversion courses to enable engineers to become agricultural engineers.† There are no postgraduate courses within the Faculty of Agriculture of Queen's University, but a considerable volume of postgraduate research of both a fundamental and applied nature is carried out under the auspices of the Faculty and by the research divisions of the Ministry of Agriculture.

207. In its consideration of the probable future demand for agricultural graduates the Bosanquet Committee pointed to the long term effects at home of the agricultural revolution which began about thirty years ago and is still continuing—the rapid increase in the power to control environment throughout the whole field of plant and animal production, the pace of mechanisation and the new methods of analysing the economic ingredients of successful farm enterprise‡—and to the wider effects overseas of the continuing demand for agricultural graduates from the United Kingdom.§ The Committee refers to the problems of malnutrition, especially in Asia, Africa and South America, and to the need, for moral and economic reasons and in the national interest, for the United Kingdom to retain its ability to send effective numbers of agriculturalists and other scientists to work overseas; and suggests that the present effective demand does not accurately indicate the latent need.|| In comments on developments at home the Committee suggests, both from evidence received and from its own thinking, that progress in every branch of farming will require men and women who have been better educated and more fully trained, and that graduates will be required in increasing numbers.¶

208. Agricultural studies would not relate sufficiently closely to the direction of development which we recommend for Queen's University. They would no longer be appropriate in an urban university distinctly orientated towards technology and the applied physical sciences and hence would lack the necessary emphasis and priority. On the other hand they would have a very important and significant place in a new university of the kind we suggest. We are satisfied that within the new university organisation there will be no lack of the supporting facilities in other disciplines which university work in agriculture requires. There are also other considerations. The Faculty of Agriculture at Queen's University has already outgrown its accommodation and a new site has been offered by Queen's University on the outskirts of Belfast. In the interest of both the University and the Faculty, we cannot commend this proposed arrangement.

209. We readily and gladly pay tribute to the work of the past 40 years in agricultural education at undergraduate and postgraduate level, and in particular to the part played by the Ministry of Agriculture in this work.

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* Paragraph 143. Bosanquet Report: Paragraph 71.
† Paragraph 143. Bosanquet Report: Paragraph 43.
‡ Bosanquet Report: Paragraph 46.
§ Bosanquet Report: Paragraph 58.
|| Bosanquet Report: Paragraphs 62–64.
¶ Bosanquet Report: Paragraph 47.

While we appreciate the reasons which, 40 years ago, led to the unusual arrangement whereby the Faculty of Agriculture is staffed by civil servants* and is financed directly by the Ministry of Agriculture, we see no convincing reason to justify its continuance. We are strongly of the opinion that agricultural education at university level in Northern Ireland should in future be controlled and financed in the same manner as other disciplines, and we are satisfied that a faculty or school of agriculture should be established as an integral part of the organisation of the new university and that the arrangement with Queen's University should then be terminated. This would not preclude the making of special co-operative arrangements between the new university and the Ministry of Agriculture in a relationship broadly similar to that which obtains between the Northern Ireland Hospitals Authority and Queen's University, or of the kind which we indicate in Chapter VIII should obtain between the new university and the Ministry of Education for the education and professional training of teachers.

210. We are not, however, suggesting that agriculture should be the foundation element of the new university but rather that, along with fisheries, it should form one of the important fields of application of the biological sciences in which the new university should specialise, in broadly the same way as technology within Queen's University will be seen as the application of the physical sciences. This would be an innovation wholly germane to the needs of Northern Ireland and would give agriculture the enhanced standing which is its rightful due in a country so dependent on it as is Northern Ireland. Although the numbers of persons engaged in agriculture will diminish with improved scientific and technological methods, those remaining in the agricultural industry will require more knowledge and skill if it is to maintain a competitive position in United Kingdom and world markets. With agriculture so closely associated with the biological orientation which we propose for the new university, it is essential that the new university should not only offer undergraduate teaching but also should provide postgraduate courses and should engage in postgraduate research. It has been represented to us by the Ministry of Agriculture that, in view of the interlocking of the work of the Faculty and the Ministry, it is not possible to separate the postgraduate work of the Faculty from that of the Ministry's research divisions. It has also been represented to us that research work must be concentrated in Belfast mainly for reasons of proximity to the Ministry's administrative divisions and for ease of transport of product samples, infected carcases and so on from all parts of Northern Ireland. We have carefully considered these arguments but do not find them convincing. We suggest that some of the research work at present carried out by the Ministry of Agriculture research divisions might well be carried out at or near the new university. Such a development would be fully in line with the present trend of policy in Great Britain, which seeks to group research institutes near universities and which has been welcomed by the Bosanquet Committee.† We recognise inherent difficulties in implementing this suggestion but urge that it should be considered in relation to any further capital development on agricultural research.

* Paragraphs 58–60.
† Bosanquet Report: Paragraph 70.

Location and timing

211. We now turn to the question of location and to timing, matters which have already aroused much public interest throughout Northern Ireland and to which we have devoted most careful consideration.

212. We received submissions from the County Council and Urban District Council of Armagh advocating a site for a second university adjoining the city of Armagh ; from the Coleraine Borough and Rural District Councils in co-operation with the Urban District Councils of Portrush and Portstewart advocating a site in their area ; and from Londonderry County Borough Council advocating any of several sites in or near the city of Londonderry. Each of these submissions has received wide publicity in the press. In considering the claims for Londonderry we took into account the development proposals of Magee University College,* and we also considered Londonderry as a location apart from the question of the possible development of Magee University College. To assist in our examination of a location in the proposed new city in County Armagh we received a submission from the Ministry of Health and Local Government, the department responsible for sponsoring the new city proposals. Much of our other evidence also touched to a greater or lesser degree on questions of location and site, and other locations were mentioned during the course of our deliberations.

213. In the case of each new university created in Great Britain in the past 20 years the Government has taken its decision on a location and site after receiving confidential advice from the University Grants Committee. We therefore considered it important to study how the University Grants Committee approaches the task of making the choice. Although the Committee's reasons for its recommendations in individual cases are not made public, it has indicated in a Report issued earlier this year what criteria it has used,† and these were later summarised in the course of a debate in the House of Commons at Westminster by Sir Edward Boyle, then Minister of State for Education and Science. In referring to the Report, he said:—

> ". . . the U.G.C. has to consider factors such as whether the proposed location, site and sponsorship are such as to give confidence that the creation and growth of an academic institution of university standard placed there would proceed smoothly and effectively ; whether staff of quality and energy would be attracted in sufficient numbers ; whether there are sufficient numbers of students' lodgings to supplement university residential accommodation ; whether adequate financial and other support is likely to be available ; and whether the locality offers associated industrial research activities."‡

We agree with these criteria, but have not regarded them as restrictive. We took note, for example, of the views of the Robbins Committee on the location of new universities,§ and in particular their views on the desirability of locating them in large cities and even of having two universities in one city. These views, however, seem to us to require modification in their

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* Paragraphs 98–100.

† " University Development 1957–1962 ": Paragraphs 276–287. Cmnd. 2267. London H.M.S.O., 1964.

‡ Hansard Volume 699, No. 154: Col. 1608. 29th July, 1964.

§ Robbins Report: Paragraphs 495–503.

application to the situation in Northern Ireland.* We have been concerned to establish the most effective methods of providing the various kinds of higher education, and this objective necessarily led us to arrangements involving the effective co-ordination and concentration of resources in institutions of reasonable size.

214. It is of prime importance that the second university should have a site of adequate magnitude to accommodate its proposed activities and to allow for future growth. The acreage to be provided should be sufficient in extent and quality to allow for the establishment on it of all necessary academic and recreational facilities for students and of one or more research institutes. In view of the importance of residential accommodation to university life, ample provision of space for halls of residence, college houses and students' flats should be made in planning, notwithstanding that for some years ahead funds may not be forthcoming from other than private sources for the provision of such accommodation. A site of about 300 acres might be thought sufficient for a new university which is planned to grow to some 6,000 students, but if the new university is to develop fully the activities which we propose, particularly in agriculture, very much more space than this will be required, possibly as many acres again. It is of paramount importance in our view that, as the university develops, it should be able to do so within the boundaries of a single site. Every reasonable precaution should be taken, in acquiring and planning the site initially, to prevent any possibility that site inadequacy should force upon the university a subsequent unsatisfactory dispersal of its work.

215. We agree with the University Grants Committee that "a university, if it is to be wholly effective, should be part of the community in which it lives". The interaction between the university and its immediate environment is obviously of the greatest importance. A good location is therefore one where the university will benefit from the interest and enthusiasm of the surrounding community. It is certainly not right in our view to locate a university in a particular place chiefly for the good it may do to the location chosen. Good town and gown relationships and local enthusiasm for a new university are very important factors, and we include in these a willingness on the part of an area not only to present a suitable site but also to ensure that all necessary services such as power and water are quickly made available and to campaign vigorously for financial support from local authorities, industry and other sources. It is also essential that the development of a new university should be able to proceed smoothly and successfully through the planning and later stages unaffected by political considerations either at local or at central government level.

216. A new university in Northern Ireland will, particularly in its early years, be competing with universities in Great Britain for staff. It is essential, therefore, that the chosen area should rank high not only in Northern Ireland but also in the United Kingdom as a whole in the amenities which it can offer to academic staff, and not to staff alone, but to their families as well. This requires not only a supply of good houses, to rent or to buy, but also schools of high quality and of sufficient variety, a pleasant countryside and good facilities for sport and recreation.

* Paragraphs 153–166.

217. Allied to the question of houses for the staff is that of lodgings for students. The availability of lodgings in appreciable numbers is a short-term advantage which should be weighed against long-term considerations. Yet it is a decided advantage in the context of the future development of higher education in Northern Ireland. It will be essential in the years immediately ahead to concentrate financial and material resources, and the necessary skills and manpower available, on the provision of academic buildings rather than on student residences. Our recommendations in other fields of higher education will lead to heavy calls on these same resources.

218. A university requires not only academic staff and students but also a supporting population adequate to provide the many service facilities on which an institution of such a size depends, and to offer a good source of recruitment for secretarial, technical, maintenance and other non-academic staff. We have, therefore, considered the size of the population within a reasonable daily travelling distance of each proposed location.

219. The location chosen must have good communications with other parts of Northern Ireland and with Great Britain, but it must also be sufficiently well away from the pull of Belfast to ensure that the character and background of the new university will make it different from Queen's University. This is an over-riding need if the new institution is to develop, as we hope it will, in a way in which it can be regarded as a clearly attractive alternative to Queen's University. We have, therefore, considered where the second university should be located not only from the standpoint of what will be best for the second university ; we have also taken into account the interests of Queen's University in the changing context of higher education in Northern Ireland.

220. Finally there is the question of timing. Site acquisition must follow quickly after Government approval has been given to the establishment of a second university. It is improbable that a Vice-Chancellor could assume office earlier than a year to eighteen months after the date on which Government approval is given and that the first students could be admitted earlier than two years after the Vice-Chancellor has taken office. The earliest effective date for the admission of the first students will, therefore, probably be October, 1968. But, if our recommendations for Queen's University are to be implemented and if those who should have an opportunity to enjoy the advantages of university education are not to be disappointed, students must be able to start entering the new university by that date and a rapid build-up in their numbers must follow in the early 1970s. This target date of October, 1968 will necessitate the settlement of all planning and site problems by mid-summer 1967 at latest so that sufficient initial building, whether temporary or permanent, may have been completed or adapted when the university opens to receive its first students in the following year. In building, the need for speedy action is particularly important in the case of the Education Centre proposed in the next chapter and is also vital in the context of agriculture.

221. The foundation of a new university is a difficult project and factors that are of special assistance in its initial development may reasonably count for more than longer term considerations only would suggest. It is impossible to give a precise weighting to each relevant factor but in our concerted view

the Coleraine area satisfies our criteria better than any of the other areas we have considered and we are of the opinion that the new university will have the best opportunity of a good start and of ultimate success in that area. We recommend accordingly. This area alone can provide the residential facilities which must be available in the critical years immediately ahead and it has amenities which can be greatly developed. It has a background distinctively different from the background against which Queen's University is set, and for that reason is eminently suitable for the establishment of the different kind of university which we recommend, and for new developments in the education of teachers such as will characterise the Education Centre. It is, moreover, an area which is not likely to be a major competitor with the Belfast area as a centre of urban industry and so to require facilities which would weaken the provision within Queen's University of comprehensive facilities for higher technological studies at university level. It is also an area which, by its very nature, would attract first-rate staff, and can offer housing accommodation to rent on a short-term basis and good sites on which to build. It is, nevertheless, convenient to Belfast, and to Northern Ireland's civil airport at Aldergrove in terms of travelling time, but is far enough away to make the undesirable practice of commuting by staff and students difficult and unattractive. Furthermore, conferences and seminars should flourish there as ample accommodation will be available for academic visitors. We are satisfied that the sponsoring local authorities are able and willing to support the establishment of a university, and that in doing so they will not be influenced by other considerations which could impede development and progress.

222. There is one further aspect of this question of location on which comment must be made. We have given prolonged consideration to the problems associated with all the locations put forward to us, and particularly to a view that the proposed new city in County Armagh could offer the special attraction that a university located in it would be able to develop as the city itself developed. The new city is, however, the main feature of the proposed development of the Belfast region and, notwithstanding the arguments presented to us on its behalf, we reject it as the location for a second university, although towards the turn of the century it might become the seat of a third. Its close identification with the Belfast region involves the danger that a university located there might be unduly influenced to develop along technological lines as an attraction to new industry. This would impede the proper co-ordination and concentration of technological studies at Queen's University.* In addition, it could not meet our timing or other requirements.

223. We conceive the new university, like Queen's University, as one for the whole of Northern Ireland and we hope that wide financial and other support will be given to it. It will, for example, require informed lay representation on its governing body and we hope that men and women of standing from all parts of Northern Ireland will be willing and ready to serve in any of the several ways in which they may be called upon. We hope also that our recommendation will meet with general approval and that the establishment of the new university in the Coleraine area will be supported throughout

* Paragraph 162.

the whole of Northern Ireland. A speedy development must be assured and we make no apology for emphasising again the urgency of the need.

224. The site should be presented by the four sponsoring local authorities—Coleraine Borough and Rural District Councils and the Urban District Councils of Portrush and Portstewart. They should also establish an endowment fund to which industrial and commercial interests should be invited to contribute. We hope, too, that The Honourable The Irish Society will give it generous encouragement and will find it possible to add it to the list of educational institutions which enjoy the Society's financial support.

225. This second university for Northern Ireland will be an entirely new concept and not one to be derived from or attached to any existing institution. It will require the most favourable conditions of growth and should not be limited by the projection of traditional attitudes. As a modern university it should take full advantage of recent ideas and developments in new universities on university organisation and government and to this end a distinguished Academic Planning Board should be constituted quickly with the following immediate responsibilities:

(*a*) to select and nominate the first Vice-Chancellor, the first professors and a development architect charged with responsibility for the early preparation of a plan for the long-term development of the university ;

(*b*) to consider the range of subjects to be studied and the length and general character of the undergraduate course ;

(*c*) to prepare a petition for a Royal Charter and to select the persons to be named as the first governing body ;

(*d*) to consider the arrangements for ensuring the maintenance of satisfactory standards.

The Academic Planning Board should continue for some years after the granting of the Charter as an Academic Advisory Committee with powers and functions written into the Charter of the university. These should include a responsibility for advising on academic matters ; for approving the institution of higher degrees ; and for keeping under review the procedure for the appointment of academic members of staff, the standard of education provided, the organisation and conduct of university examinations and the degrees awarded.

Magee University College

226. The implications of this recommendation for Magee University College are inescapable. We see no alternative to its discontinuance. This should not be taken to imply that in our opinion the College has failed to fulfil its purpose during the century of its existence. We appreciate fully what has been done by the Trustees and by the Faculty, particularly over the past few years, but in its present buildings and on its present site the College could not be regarded as the nucleus of a new university planned to expand to 5,000/6,000 students. Moreover, apart from considerations of the present site and premises, or of the location of the new university, we do not consider that the College provides a suitable basis for expansion. We hope that the

new university will, as far as possible, take over such of the Magee University College staff as wish to transfer and that the Trustees and the Government will assume a sympathetic responsibility in keeping with the temper of the times towards any of the more senior members of the staff who may prefer retirement.

227. We recommend a progressive reduction in Government grants to the College from the beginning of the 1967/68 academic year until the end of the academic year 1969/70, after which no further recurrent grants should be paid other than such grants as may be necessary to honour residual commitments. To avoid problems which otherwise would be presented by students still engaged on courses when recurrent grants are withdrawn, new students should, we suggest, not be admitted after October, 1966.

228. We have given thought also to uses to which the Magee University College premises might be put after the discontinuance of the University College. The premises are well suited to providing residential non-university courses of varying types and duration and we are conscious of the shortage of facilities of this kind in Northern Ireland. In this connexion the Morris Committee* has recommended that it should be open for voluntary bodies to participate in the provision of adult education, and that the possibility of establishing a residential adult education centre should be sympathetically explored by the local education authorities. It will be for the Trustees and the General Assembly of the Presbyterian Church in Ireland to consider the re-application of the educational endowments generally, and it may be possible for them also to consider the endowment of some feature or features of the work of the new university.†

* Paragraph 4.

† Section 43 of the Magee University College, Londonderry (Northern Ireland) Act, 1953 provides that " If at any time the trusts embodied in this Part of the Act should fail, or the Government Grant be withdrawn, the Trustees shall hold the College Endowments upon trust for such purpose as the General Assembly, subject to the approval of the High Court of Justice in Northern Ireland may decide."

CHAPTER VIII

TEACHER EDUCATION

229. In Paragraph 191 we made a brief reference to the position of teacher education in our concept of a new university. We propose now to elaborate on the development of teacher education within the new concept and then to consider to what extent there might be co-operation between Queen's University and existing teacher training institutions in and around Belfast.

230. As we explained in Paragraph 10, we regard the function of preparing men and women for the teaching service as teacher education rather than as teacher training. Much of the evidence from sources with a direct interest in teacher education advocates a simple extension to Northern Ireland of the Robbins recommendations for England and Wales. The stated objective almost invariably is the creation of an opportunity for teachers or intending teachers to gain university degrees. Few analyse the merits of the request. Some aspire to the evolution of an all-graduate trained profession and, while we sympathise with this as an ideal, we are deterred by the harsh realities of competition between professions for ever increasing shares of the limited pool of high intellectual ability.

The size of the problem

231. If the present method of producing teachers remains unchanged our estimate of the number of places required by 1980 for intending non-graduate teachers is about 3,000.* The total number of students at present attending the three general training colleges is about 1,800. By 1980 facilities must therefore be provided for an additional 1,200. There could be some modification in the enrolments of the existing colleges, but the enrolment of Stranmillis College is, in our view, already too high. This means that, making no allowance for students from Great Britain and overseas, places will have to be found by 1980 for about 1,000 students outside existing institutions.

The nature of the problem

232. Except for the relatively few whose training has a value in industrial and commercial markets, teachers tend to be tightly confined not only to their own profession but, particularly in Northern Ireland, to the very sector or sectors into which their initial training directed them.† To offset this inherent defect the Robbins Committee visualised that some Colleges of Education may later wish to broaden their scope by providing courses, with a measure of common studies, for entrants to various professions in the social services. The same desire to ensure the association of teachers in training with general academic thought must also have underlain the Robbins Committee's concept of Schools of Education.

233. In Paragraphs 134–137 we made some comments on the present day obligations of the university to society. In teacher education this obligation

* Paragraph 41.
† Paragraphs 125–126.

assumes a special significance: for it is the teacher-trainee of to-day who *educates* the adolescent of to-morrow and who by attitude and example plays a major part in moulding his inclination and outlook. Universities must, we think, concern themselves with those who will educate these young people. The Robbins Report points out that current discontent in the training colleges is not just a matter of wanting degrees: it goes deeper and involves the whole standing of teacher training as a part of higher education.* We feel that the recommended creation of Schools of Education in England and Wales is only a stage in a process of development which will lead ultimately to the removal of the traditional lines of invidious distinction drawn between teachers " trained " in a training college and those " educated " at a university.

234. The existence of training colleges is an accident of history. The work done in them should have been undertaken by the universities in the first place; but for a variety of reasons, mainly social and financial, they grew and developed as they did. Their association with the universities became more difficult as public interest in schooling increased and as universities became more self-conscious and concerned for standards in disciplines which they regarded as truly academic. But what logical reason is there for differentiating in principle between the methods of educating a student teacher and a student doctor or a student engineer? " One thing that may be said with certainty is that, if the country had to plan a system of higher education from the outset, the pattern of training colleges would be very different from the one that we have ".† The situation in Northern Ireland, where there is only a handful of training colleges, will, we hope, be more amenable to change than the complex situation in Great Britain.

235. Teachers must have a good and imaginative education: professional training is now also accepted as highly desirable. But there is no unanimity about the balance between personal education and professional training for any particular kind of teacher. Obviously the sixth form grammar school teacher must have a competent knowledge of his particular subject and the primary school teacher must know how to handle young children. But it does not follow that the sixth form teacher requires no tutoring in the transmission of knowledge and in the understanding of adolescents, or that a child in a primary school cannot discriminate between an inspiring teacher who has the gift of invention and a mechanical but professionally qualified dullard. One of the problems confronting us in our attempt to confer an appropriate status on all preparation for teaching is that professional training has too often become an object of interest in itself instead of being a designedly practical exercise directed towards actual classroom work.

236. Many graduates become teachers by accident or by default. On the other hand, students who go to the training colleges are typed as teachers from the moment they leave school, and those who later find teaching unattractive have no real escape since they are not formally qualified for any other employment. There is a strong argument in favour of risking the loss of some who could become a liability in the classroom in the hope of gaining a profession more content in the sense that it knows it is not irrevocably

* Robbins Report: Paragraph 360.
† Robbins Report: Paragraph 316.

bound to blackboard and chalk. Already the seed of the idea has been sown by the abolition of the student teacher's undertaking to teach for at least two years in a grant-aided school or institution in Northern Ireland upon the successful completion of the training course. Furthermore, a training system designed more as a part of normal higher education should facilitate the attraction to the teaching profession of persons in other employment who later in life feel an urge to teach; and should make it possible for teachers to refresh themselves by periods of experience in business and commerce in the knowledge that the way back to teaching will be open and that opportunities will be available for their re-assimilation on return.

An Education Centre within the new university

237. We therefore favour the provision of the necessary additional facilities for teacher education within the framework of the new university. As an interim expedient, teacher education at the new university should be organised in what we propose should be called an Education Centre, controlled and operated through a body established by the governing body of the new university in association with the Ministry of Education. This Centre must be built on the main university campus (this is of paramount importance) and it should be responsible for all aspects of the professional pursuit of education. These should range from the provision of broadly based courses for young people who wish to make their careers in primary schools (and whose attainment at entry may be below the standard normally accepted for university matriculation) to courses in education and psychology related to education for those who wish to include these subjects in the compass of an ordinary academic degree, or to take them in supplementation of a degree. The Education Centre should organise teaching practice in schools as the training colleges do at present, and should be responsible for the pursuit of research in education; and, in particular, of research into the possibility of evolving a course for intending primary school teachers which could lead to a degree, and in consequence to the ultimate absorption of the Centre completely within the university. It should also provide facilities for improving the quality of university lecturing and for research into methods of educational communication at all levels, whether by improved lecture and classroom techniques or by the better use of educational aids and demonstration material.* It should be ready to experiment with many types of courses. Examples are courses for graduates, undergraduates and non-graduates, which could be full-time or part-time, initial or refresher; courses for older students—adults with a vocation for teaching discovered later in life and married women who wish to return to teaching after bringing up their families; and in-service courses for teachers on a varied pattern and of varied duration during both term and vacation. The aim in placing the Education Centre on the main university campus is to ensure that practical training for teaching will enjoy the same advantages and status as practical training for other professions which the university provides. The provision of facilities for about 1,000 students in the Education Centre will significantly increase the total number of students on the campus of the new university from the 5,000/6,000 estimated in Paragraph 159.

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* The new Universities of Essex and Lancaster, for example, have included among their earliest appointments posts for research into teaching methods.

238. We visualise four main categories of student associated with the proposed Education Centre:—

(*a*) Those who enrol at the new university with the main purpose of obtaining a degree and who may later decide to teach.

(*b*) Those who enrol at the new university with the object of entering the teaching profession and who have satisfied the matriculation requirements.

(*c*) Those who enrol with the object of teaching but who have not satisfied the matriculation requirements.

(*d*) Those who enrol for part-time professional training or for refresher or re-assimilation or in-service courses.

We shall suggest possible lines for the development of courses for these four categories, but each suggestion will need to be examined in detail by the Academic Planning Board of the new university in consultation with appropriate teacher training interests. These must include the Ministry of Education which has been charged by Parliament with the responsibility of making arrangements for the provision not only of an adequate supply of teachers but of teachers whose preparation is adequate to the discharge of the responsibilities which will be laid upon them. The acceptance of a teacher for service in grant-aided schools is a matter for the Ministry of Education, and must remain so.

Courses at the Education Centre

239. The B.Ed. degree proposed by the Robbins Committee, as several of our witnesses pointed out, is simply an extension of the Teacher's Certificate, and does nothing to eliminate the typing of teachers or to ease interchangeability between the teaching profession and other walks of life. We favour the development of a system within the new university which would enable preparation for teaching, wherever possible and to a greater or lesser extent, to be done within the structure of normal degree courses and which would lead to the award of a B.A. or B.Sc., not a B.Ed., degree. By this means the graduate who destines himself for teaching should be no less a graduate in the conventional sense than any other graduate. This would not preclude subjects with an educational bias being included within normal degree structures.

240. The new university should have a normal range of degree courses, its pass courses following on the usual pattern of including several subjects. A student in our first category (Paragraph 238) would choose his subjects in the normal way. However, if he thought that he might later wish to teach, he might select customary teaching subjects specifically with that in mind; or he might decide to take as a main subject education (not conceived as at present as a postgraduate course) or psychology, or a comparative course on the structure of societies or of educational systems other than our own. By "education" as a subject we mean an undergraduate course designed to give students a basic knowledge of the professional requirements for teaching; and students taking this subject should be required to devote an appropriate allocation of time to teaching observation and to practical classroom work. It might prove possible at a later stage to divert some teaching observation

and practice to periods of vacation and thereby to save further time for personal education during the degree course. Close consideration of this, however, should await the establishment of the Education Centre.

241. The courses available to the second of our categories of student—those who enrol at the new university with the object of entering the teaching profession and who have satisfied the matriculation requirements—would be the same as those available to the first. But the second category student, having destined himself at admission for subsequent entry to teaching, would choose his subjects specifically with that object in view.

242. In Paragraphs 138–144 and elsewhere we have expressed our view that undergraduate courses should as far as possible be directed towards the unfolding of basic principles, and the main impact of various specialisations left to a postgraduate year or years. The present four-year non-graduate teacher training course, directed mainly towards the needs of secondary schools, evolved in 1948 with the introduction of a semi-specialist year on top of three years of general training, but recently was revised to become in most cases an integrated four-year course with specialist work spread over the four years. This was a concept in advance of its time like the basic three-year course, which in Northern Ireland was also introduced in 1948, a decade in advance of a similar development in England and Wales. With more and more advanced work being undertaken in the schools and a minimum age for admission to training colleges at 18 years on 1st October, the content and distribution of the four-year training college course should be reconsidered.

243. Students over 18 years of age who do not satisfy the minimum matriculation requirement and fall within our third category should, therefore, be attached for a three-year course to the Education Centre. The three-year course should be diverse in content, and separate branches of study should be available to meet the requirements of the different types of schools in which the students will seek employment. As far as possible work of common application to primary and secondary teaching should be provided in the earlier parts, with such specialisation as may be necessary reserved for the later stages. The students should be given every possible opportunity of mixing with other intellectual groups and should share common social, recreational and residential facilities with degree students. Library facilities and, as far as possible, lectures also should be shared. Any non-matriculated Education Centre student who shows by his progress that he is capable of reading for a degree should be enabled to transfer to a degree course, due credit being given for the work already done and for time already spent in study within the Education Centre. Transfer from degree to non-degree courses should also be facilitated where it is in the best interests of the student. Non-degree students should be awarded a Diploma in Education by the new university upon completion of their course in the Education Centre.

244. In providing for our fourth category the Education Centre should become a focus for all kinds of supplementary and refresher courses, both in term and in vacation, for teachers and others, and should initiate and conduct research of both local and national interest. We have already

mentioned one particular direction in which research is urgently required,* and the close association which the Centre will enjoy with the more academic side of the new university and the practice of teaching should place the Centre in a uniquely favourable position for the conduct of such work. The juxtaposition of normal university departments and university extra-mural activities generally should also facilitate the provision of evening and week-end courses in a wide variety of fields, and should create the possibility of abbreviating, without loss of standard, the training period for older persons wishing to enter the teaching profession. The Education Centre should become the point of confluence of teaching interests for the whole of the northern half of Northern Ireland, and the availability of facilities in both the Belfast and Coleraine areas should make it easier for short-course coverage to be given to the whole of Northern Ireland.

Probation of teachers

245. In the light of the developments which we envisage for teacher education, we suggest that there are compelling arguments for re-examining the nature and duration of the probationary period. In Northern Ireland (as in Scotland) the probationary period extends over two years in contrast with the one year required in England and Wales. It might be possible to regard the first of the two probationary years as forming part of the training period and thereby to save time within the intending teacher's degree or non-degree course for a greater emphasis on personal education. This suggestion is an extension of "on-the-job" training through sandwich courses which will be found increasingly, we think, in higher education related to industry and commerce. It would, however, probably require the designation for training purposes of selected schools where the principal and staff would have shown themselves eminently suitable for this type of work. It would also require an especially close and active association between the Inspectorate of the Ministry of Education and the Education Centre in the organisation of its work.

Religious education

246. Before we turn to the situation in Belfast, we wish to comment briefly on religious education. There are very few people who would not subscribe to the importance of religious education in the upbringing and education of children. Under the Education Act of 1947 religious education is compulsory in all grant-aided schools, subject to the right of withdrawal of individual pupils. In county schools, subject to the exercise of conscience by teachers and to right of access for denominational instruction, it has to be undenominational. In voluntary schools it is of such kind as the managers of the schools determine. We appreciate that religious education presents complex and difficult problems but we hope that the Education Centre will provide fully satisfactory arrangements for all sections of the community.

Queen's University and the training colleges

247. The preceding paragraphs are a sketch-plan ; the working drawings have still to be prepared. The period ahead for the preparation of these working drawings is short, and the Academic Planning Board of the new university

* Paragraph 237.

should consider as soon as possible the implications of these proposals for the development of teacher education and initiate the negotiations which will be necessary if they are to be followed up quickly and effectively. During the next few years, moreover, Queen's University and the training colleges in Belfast must give further study to the parts which they can respectively play in future development.* In the long run it would be hard to justify significantly different teacher education systems operating in one small area like Northern Ireland such as would occur if students attending the Education Centre of the new university were eligible to receive privileges denied to their contemporaries in Belfast. We welcome the willingness of Queen's University to enter into a new relationship with the training colleges and to afford facilities which will enable training college students who have reached the University's matriculation standard to read for University degrees within their colleges.† Nevertheless, we think that it would be unwise to separate non-degree students who follow the training college course successfully into those eligible to receive University certificates and those not so eligible by reference only to standard of attainment at the point of admission to the course.† We hope that after further examination of the situation the University will see its way to enter into a full partnership with the training colleges and to give university acknowledgment to all who successfully complete training college courses by awarding them the University Diploma in Education. The existing University arrangement for the award of the Diploma in Social Studies to non-matriculated students sets a pattern which should be followed.

General training college management

248. To facilitate the introduction of a degree course or degree courses for students attending the general training colleges who have the minimum matriculation requirement, the governing bodies of the colleges will, we hope, be willing to supplement their membership by an appropriate University representation. We make no general recommendation on the extent or nature of the representation and we think that it need not necessarily be the same in each case. We think it also very desirable that the Principal and some members of the staff should be granted full membership of the governing bodies of the colleges.‡

249. The management of Stranmillis College presents a problem of its own in view of its position as a Government foundation. Subject, however, to reservations which we make in Paragraph 251, we think that it would be advantageous for the Ministry of Education to transfer the management of the College completely to a fully responsible governing body containing strong University representation. This would involve the assumption of direct responsibility by the governors for the academic, financial and administrative affairs of the College, subject to the external application of financial control to the degree necessary to safeguard the expenditure of public funds. The Ministry would also cease to control the admission of individual students. An interim development along these lines—some steps have very recently been taken§—would probably make it easier for Queen's University to move

* Appendix II, 1: Paragraph 13.
† Paragraphs 121–122.
‡ Robbins Report: Paragraphs 678, 673.
§ Paragraph 104.

into the position of close association and co-operation which we would welcome.

250. The Ministry would, we hope, give the same measure of independence to the voluntary colleges as an association between them and Queen's University develops. The Ministry should in the meantime continue to pay grants direct to the colleges and should encourage them, and Stranmillis College, to plan well ahead by estimating their grant requirements on a triennial basis rather than by annual assessments.

251. The ultimate objective in Belfast, as within the organisation proposed for the new university, should be the assumption by Queen's University of a responsibility for producing teachers for all kinds of schools. We have indicated that the new university should arrange for an appropriate association between its Education Centre and the Ministry of Education in view of the responsibility of that Ministry to Parliament to ensure an adequate supply of teachers for service in grant-aided schools. A similar association between Queen's University, the training colleges and the Ministry is desirable in Belfast. Meanwhile the Ministry must retain sufficient control of the situation to ensure that it can discharge its statutory responsibilities and must continue to determine the minimum educational standards for admission to courses in the training colleges, the number of places to be provided, and the types of school towards which the provision should be directed. The colleges must, moreover, continue to have the co-operation of the Ministry's Inspectorate in matters affecting curricula and in determining examination standards.

Courses at the general training colleges and at Queen's University

252. The courses provided in the general training colleges should be adjusted to conform with the pattern which we have indicated for the Education Centre at the new university and with our recommended pattern of university undergraduate and postgraduate courses. The four-year Course B should, for example, be merged with the three-year Course A and provision made for post-certificate or post-diploma courses in specialist or semi-specialist work, to be taken either immediately upon completion of the three-year course or after an interval of some years' experience in the teaching service. We agree with the Advisory Council for Education that there is need for a reappraisal of the respective functions of the Queen's University Department of Education and the training colleges*. We suggest that postgraduate students seeking a practical training course should incline more to the training colleges and that the University Department of Education should direct its energies increasingly to research. We would, however, welcome the undertaking of research by training college staffs.

The specialist training colleges

253. In Chapter IX we consider future administrative arrangements for the Belfast College of Domestic Science and the teacher training department of the Belfast College of Art†. The position of the Ulster College of Physical Education is different. We propose no change in its management or organisation for the time being at least but its position should be reconsidered at a later stage when the arrangements which we propose for the general

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* " Recognition of Teachers ": Paragraph 17.
† Paragraph 278.

training colleges and the other specialist training colleges have come effectively into operation. All three specialist institutions wish to retain responsibility for the giving of professional training to their own students and meantime at any rate the present arrangements should be retained. However, we hope that it will be possible for these institutions also to develop an association with Queen's University which would lead to the award of a University Diploma to their students as well as to students of the general training colleges.

Colleges of Education

254. We agree with the Robbins Committee*, and the Advisory Council for Education†, that the general training colleges should be renamed "Colleges of Education". We wish to see every encouragement offered to their ultimate diversification in order to include preparation for related professions such as the welfare and social services. But we doubt the practicability of diversification within the next few years in view of the urgency of the demand for teachers. Our concept of an Education Centre at the new university will introduce non-graduate students to a more liberal atmosphere by involving them closely with undergraduate students in a wide range of academic disciplines.

Professional training for technical and university teachers

255. We welcome the supplement printed with the Advisory Council Report on the Recognition of Teachers which deals with professional training for technical teachers. We agree with the Council's view that the most pressing need is to provide courses for full-time teachers of young persons in institutions of further education. For these teachers the Council recommends a compulsory one-year full-time course to be taken not later than two years after first appointment and suggests that, if possible, this course should be provided in the Belfast College of Technology. We doubt, however, whether the numbers coming forward annually would sustain such a course after the initial back-log had been cleared, and we think that it might be unwise to forgo the arrangement with the specialist technical teacher training colleges in England to which some 10 serving and intending teachers have gone annually since 1961/62.

256. We are anxious that every encouragement should be given to the man or woman with sound industrial or commercial experience to enter technical teaching. A teacher with such experience is greatly to be preferred to the less experienced young graduate for teaching in technical institutions. We feel that recruitment from industry would be greatly assisted if, during the first year of appointment to a teaching post, the recruit could be placed under the direct supervision of an experienced teacher. Thereafter he should be seconded on full salary for at least one three-month course in a selected training institution. Two such courses plus a further three-month term under supervision in an institution other than his own institution is a recognised method of conferring qualified teacher status in England and Wales. Teachers appointed under this arrangement frequently have had part-time teaching experience and their potential value as full-time teachers is known.

* Robbins Report: Paragraph 351.
† "Recognition of Teachers": Paragraph 17.

A course of this kind could be organised within the " Ulster College " which we discuss in Chapter IX*. This course could, moreover, be applied readily to technical teachers presently in service.

257. Training should also be provided for part-time technical teachers at the major technical institutions with university or training college assistance. This could be done, for example, by means of courses organised on one evening per week over a twelve-week period, the first eight evenings being devoted to general principles and the last four to the teaching of the teacher's particular subject. Such courses should preferably finish with a two-day week-end school. Courses of this kind might encourage part-time teachers to take further part-time training leading to a City and Guilds of London Institute Certificate or a local university sponsored qualification. Summer refresher courses should also be provided from time to time. Part-time teachers who successfully complete training courses should receive an appropriate increase in remuneration. A beginning has already been made in providing training facilities for part-time teachers in the Belfast College of Technology.

258. Much of what we have said about the needs of technical teachers for facilities for professional training applies equally to university teachers. Like some secondary and technical teachers a proportion of university teachers have an innate gift for imparting knowledge. But others are less fortunate and we received evidence advocating the introduction of training arrangements.† It would not be practicable to attempt to provide facilities for all university teachers in need of help, but we consider that facilities, similar to the facilities which we suggest for part-time technical teachers, should be available for newly-appointed lecturers and assistant lecturers and for others willing to take advantage of them. We consider that staff should be given every encouragement to use these facilities. We have already suggested that the Education Centre of the new university would be particularly well suited to provide facilities for improving the quality of university lecturing‡ and we think that this topic should be given a high place in its list of research projects. The Education Centre would also be well suited to assist in providing training facilities for teachers in the agricultural colleges who also do not normally have any professional training for imparting their specialist knowledge.

259. We have evolved our concept of an Education Centre as a step in the development of teacher education towards the full status of normal university work. An approach of a kind which will characterise the Education Centre is required until the quality of all teacher education rises to a generally acceptable minimum and until the educational standards and abilities of all entrants to teacher education are adequate. Furthermore, if a measure of systematic training could be introduced at a maturer stage than under the present system, for example during the first probationary year, and if in consequence there could be a reduction in the scope and extent of the professional work of the training course and its replacement by a greater emphasis on personal education, clearly discernible advantages would accrue. In the words

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* Paragraph 278.
† See also Robbins Report: Paragraph 572.
‡ Paragraph 237.

of the Robbins Committee, no one "can yet claim a monopoly of wisdom about the most constructive intermixture of theory and practice in the education and training of a teacher. The pattern should allow for experiment in this respect".*

260. We have pointed to the urgency of the need for a second university and have estimated that its development must progress with sufficient rapidity to offer between 2,000 and 3,000 places to degree students by 1973/74.† We estimate, as did the Advisory Council for Education, that in the same period about 3,000 more teachers will be required.‡ This additional factor reinforces the urgency of an immediate decision. The demand for additional non-graduate teachers is so urgent that, in our view, the Academic Planning Board of the new university should consider as one of its early tasks whether emergency measures should be taken to secure the establishment of the Education Centre in temporary premises by 1966 or 1967.

* Robbins Report: Paragraph 335.
† Paragraph 184.
‡ "Supply of Teachers".

CHAPTER IX

AN "ULSTER COLLEGE"

261. Our proposals for university development must have consequences both for further education in the widest sense of that term and for the organisation and relationships of the institutions in which further education work is conducted. The full development of the system which we have outlined for higher education will be hindered unless there is a free flow from below of young people ready to profit from what the higher institutions have to offer. We are concerned that the inter-relationship between secondary and technical education on the one hand and higher education on the other should be such that movement between the two is an easy process for those capable of benefiting from the facilities available. We first suggest lines of development for technical education and then relate these to other forms of further education.

The importance of the technician in industry

262. A danger associated with the expansion of higher education is that it may distract attention from the no less important need to provide for the further education, of different types and at different standards, of the much larger number of young people whose contribution in employment will support that at technological and other professional levels. The White Paper of 1961 on future arrangements for technical education in England and Wales outlined a major reconstruction of the pattern of courses for technicians, craftsmen and operatives.* The main objectives of the changes proposed were:

(*a*) to broaden the education received by students and to provide good continuity in the transition from school to study in the technical college;

(*b*) to adapt the system more closely to the needs of employment, and in particular to meet the urgent need for better provision for technicians;

(*c*) to increase the variety of courses available; and

(*d*) to reduce the wastage through failure which had occurred in the past.

263. The term "technician" is collective rather than individual, and in engineering—where perhaps greatest clarity has so far been achieved—it includes men performing a wide range of duties linking those of the scientist and technologist on the one hand and the craftsman and operative on the other. They are duties which demand a higher level of scientific and technical knowledge than is needed by the craftsman and operative, but a less comprehensive and more specialised understanding than is required of the scientist and technologist. Technician engineers are engaged on development and design; on the supervision of manufacture, erection and commissioning; on draughting, inspection and testing; and on the operation, maintenance and

* "Better opportunities in Technical Education". Cmnd. 1254. London H.M.S.O., 1961.

repair of engineering plant and equipment. These duties are steadily extending in range and complexity with the impact of technical change on the form of this equipment and on industrial processes generally. It is not yet sufficiently recognised that the translation of a new idea by the scientist or technologist into an efficient, reliable and economic piece of equipment or industrial process is vitally dependent on the effectiveness with which this range of duties is performed; that this effectiveness is of the greatest importance to the productivity of industry and to the health of the national economy; and that it is demanding, for an increasing number of industrial and allied personnel, higher levels of technical education and of training than have so far been achieved.

264. The scheme outlined in the White Paper on Better Opportunities in Technical Education provides two types of course for prospective technicians. The one, technician courses, such as those catered for by the City and Guilds of London Institute, of four years' duration; the other, National Certificate courses, sub-divided into two-year Ordinary and Higher courses. In the main, both are conducted on a part-time day basis, but there is a clearly recognisable trend towards the replacement of this arrangement by block release and sandwich type courses. The full-time and sandwich counterparts to the Ordinary and Higher National Certificate courses are those leading to the Ordinary and Higher National Diplomas. These also cater for prospective technicians, but some students will continue to aim at professional qualifications by this route, with varying success not least because of the conflict of this duality of aim within the design of the respective courses*†.

265. These technician courses vary in content and pattern from industry to industry, and the students participating in them are in some cases former craftsmen who have had no specific education for their jobs as technicians. In other cases they are young men who have just completed a five-year secondary school course or a general course in a technical institution arranged for school leavers of 15 years of age or so who show promise of being able to qualify as technicians. Most of those taking technician courses will remain technicians. Some will proceed further to professional qualifications. Below the technician courses there are courses for craftsmen with no defined entry standards but for which it is desirable to have a background of five years' secondary schooling or to have spent the fifth year in a full-time course at a technical college. Courses are also increasingly available for operatives, especially those classed as semi-skilled, designed to develop the kind of mental flexibility which is so necessary as new techniques in industry cause changes in the nature of the work to be done. Under the Industrial Training Act of 1964 Training Boards are being given financial and other powers to ensure that adequate training is given within industry and that, where appropriate, the services offered by institutions of further education are properly used.

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* Paragraph 173.

† *Full-time* courses are those involving full-time study through the week. Full-time courses are divided into *continuous* courses and *sandwich* courses, in which the period of full-time study in college is broken by a period, or periods, of industrial training forming an integral part of the course. *Part-time* courses are divided into *part-time day* courses (which may or may not involve further attendance during the evening) and those which take place during the evening only, referred to as *evening* courses. Students who are released by their firms to take a series of short periods of full-time study, averaging 18 weeks a year or less, as an alternative to or in addition to release for one or two days a week, are counted not as sandwich course students but as part-time day students. Their courses are known as *block release.*

The future organisation of technical education

266. It is of fundamental importance to recognise that technical education must comprise not a number of water-tight compartments but a spectrum of inter-related opportunities designed to satisfy the needs of the individual student at any given time and to afford a means of moving to higher levels of study in keeping with his developing abilities and interests. Below university level there must be a well co-ordinated organisation of technical education which, we consider, should comprise—

(*a*) a Regional College of Technology situated in Belfast providing Higher National Diploma and Higher National Certificate courses and the more advanced of the City and Guilds of London Institute technicians' courses relevant to all the branches of applied science and technology for which provision at degree level is made by Queen's University ; and

(*b*) a group of area colleges in Belfast and at other centres throughout Northern Ireland providing Ordinary National Diploma and Ordinary National Certificate courses, City and Guilds of London Institute technician, craft and operative courses and also, if there is a substantial and justifiable demand and the work of the Regional College of Technology would not in consequence suffer, Higher National Certificate courses in subjects directly relevant to the industry of the particular area.

The regional colleges in England and Wales are institutions of undoubted standing to which the Robbins Committee has paid tribute.* We propose Belfast as the location for the Northern Ireland Regional College of Technology for the same reason that led us to conclude in Chapter VI that technological education must be located in Belfast. The area college, or colleges, in Belfast will provide facilities for Belfast students in the lower levels of work not covered in the Regional College.

267. This concept is fully in accord with the view expressed by the Ministry of Education in its 1964 White Paper, where it was indicated that the Ministry had in mind the selection of a small number of institutions outside Belfast for development under distinctive titles. These colleges alone (which would be area colleges) would provide the more advanced courses such as those leading to National Certificates. The remaining technical colleges throughout Northern Ireland would be asked to concentrate on other courses of a more general nature and, presumably also, on elementary courses.†

A Regional College of Technology

268. The work of the proposed Regional College of Technology would consist basically of the advanced courses which otherwise would have continued to be provided at the Belfast College of Technology after the transfer of degree work to Queen's University. In addition, the functions of the Regional College should include the non-degree work intended for the School of Applied Science and Technology which was proposed to us in evidence.‡ It

* Robbins Report: Paragraphs 415–420.
† White Paper: Paragraph 36.
‡ Appendix III, 3.

would, therefore, upon the abolition of the Joint Authority, take over responsibility for Higher National Diploma and Higher National Certificate work in electrical and mechanical engineering and aeronautical engineering.

Sandwich courses, block release and part-time study

269. In England and Wales the regional colleges are the main centres for the development of sandwich courses. We hope that the proposed Regional College of Technology in Belfast will continue the close association with industry which has characterised the development of the Belfast College of Technology and will adopt sandwich course arrangements wherever appropriate. These have the great advantage of keeping the realities of industrial life before the student as he progresses through his course. Block release arrangements are also to be preferred to part-time arrangements like day release and evening study. The investigations published in the Crowther Report gave incontrovertible evidence of the wastefulness of part-time courses in England and Wales, and there is no reason to suppose that the position in Northern Ireland is any more satisfactory. Nevertheless, it would be wrong to refuse part-time study to those for whom no other progressive route in further education is possible. But the numbers of evening students will inevitably diminish with increasing opportunities for day release, which in turn will give way to block release and sandwich courses.

270. Of these several methods presently available for training and education within industry the sandwich course is greatly to be preferred. We therefore strongly recommend the organisation of Higher National Diploma sandwich courses at the proposed Regional College of Technology in preference to the Higher National Certificate courses presently in operation in technical colleges and under the Joint Authority. We consider equally that support facilities in the area colleges in the form of Ordinary National Diploma sandwich courses should be preferred to part-time day courses leading to Ordinary National Certificate. With the growth of sandwich courses and block release courses not only in the Regional College but also in the area colleges, part-time work will give way to full-time work, and the volume of work will increase and, with it, the need for full-time staff. This will necessarily enhance the status of the area colleges. Area colleges should also, like the Regional College, take every opportunity to diversify their range of studies at their particular levels. There is, for example, opportunity for development and experiment in continued general education and in foremanship and general supervision courses and in courses for junior management.* This is a field which should prove particularly valuable as a contribution to the industrial development of Northern Ireland. The intention of the Ministry of Commerce to make management training a first charge on the Government's Industrial Enterprise Fund of £320,000 is a reassuring and encouraging move.

271. One aspect of sandwich course development—the financial aspect—requires special mention. At university level the student on a sandwich course receives during his periods of university study an appropriate proportion of the grant which he would have received if he had been a full-time student; and while in industry he receives his wages. No account is

* Paragraph 22.

taken of these wages in computing the amount of the student's grant. There are no sandwich courses, thus designated, at present operating in Northern Ireland other than the sandwich degree course provided by Queen's University..* The principle, however, of providing full-time courses for students from industry and of maintaining the student during the period of the course out of Government funds has ben accepted in Northern Ireland for about the past half century through the award by the Ministry of Education of Trade Scholarships.† Sandwich course arrangements work well and we commend the extension to a much wider variety of courses of the principle of a sharing of costs in this way between Government and industry.

National Diploma and Certificate students and degree courses

272. It will be important to ensure that students who demonstrate by their performance in Ordinary National Diploma and Ordinary National Certificate examinations that they have the ability to proceed to a university degree should have an opportunity to embark on a full-time or sandwich degree course at this stage. As selection procedures are inherently of limited validity and application, and because students mature at different ages and in different circumstances, means also must be secured for transferring very able students after Higher National Diploma and Higher National Certificate into university courses and research. The excellent results achieved in Diploma in Technology courses in England and Wales have shown that among National Diploma and Certificate students there is a significant reserve of high ability for honours degree courses and postgraduate study. In view of the comprehensive role which we visualise for Queen's University in degree work in technology and applied science, we hope that the University will reconsider the conditions under which students with Ordinary or Higher National Diplomas and Certificates may be admitted to degree courses ; and that they will be afforded treatment similar to that which is available from the technological universities in Great Britain. We hope that the University will also consider giving credit within degree courses to able students with Higher National Diplomas and Certificates of high standard. The maximum possible credit should be given in any discipline for relevant work done under some other discipline, and the student should be fitted into his new course at the highest point of his capability.

Regional and area college relationships

273. It will be equally important that students attending the area colleges should be offered every facility for transfer to the Regional College of Technology when their progress has reached a point where the area college can no longer efficiently and economically offer continuing educational facilities. The Ministry of Education White Paper proposes that technical institutions throughout Northern Ireland should send intending (Ordinary) National Certificate students to a selected small number of institutions outside Belfast—the area colleges.‡ We propose that the area colleges should contribute intending Higher National Diploma and Certificate students to the Regional College in a similar way. Without a contributory arrangement of this kind Ordinary National Diploma and Certificate students wishing to

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* Paragraph 71.
† Appendix III, 2(b).
‡ Paragraph 267.

proceed to Higher National Diploma and Higher National Certificate would to a great extent be denied an opportunity which would be beneficial both to themselves and to the community. Such arrangements whereby students transfer from one college to another, in some cases from an environment of home to lodgings, need to be backed by adequate financial support for the individual student.

The establishment of an "Ulster College"

274. In dealing with the consequential effects of our higher education proposals on further education we have, so far, considered only technical education. One of the most serious defects of further education in the United Kingdom in the past has been the separation of Colleges of Technology from Colleges of Commerce, Colleges of Domestic Science and Colleges of Music and Art. In Belfast the separation is a recent phenomenon brought about partly by the rapidly growing volume of work. The College of Domestic Science was separated and housed in a new building as recently as 1962. The College of Art, while already separately controlled, is still using College of Technology premises. A College of Commerce and Catering has been proposed, but the proposal is still in embryo. There have also been suggestions for the establishment of a College of Music. There is urgent need to reverse this process of dispersal and unrelatedness, though we realise that a reversal would not be without practical difficulties arising out of commitments to sites and building programmes.

275. Ideally these colleges, together with the Regional College of Technology, should be on the same campus, thereby providing opportunities for the association of courses, the intermingling of staff and the sharing by students of common amenities and activities such as characterise a university. Quite apart from the general educational benefit which would flow from a re-amalgamation, a combined institution would be such as would command respect in Belfast and throughout Northern Ireland. But we recognise that complete re-amalgamation on a common campus is not likely to be practicable in the immediate future. In any case, each of the spheres of further education into which the original Belfast College of Technology has been separated now requires opportunity for development with sufficient independence to enable it to satisfy the needs of the community within its own particular ambit. Yet a change in attitude and outlook could well be indicated by conferring a title such as "Ulster College" on a combined institution without the customary suffixes "of Art", "of Domestic Science" or "of Technology". This combined institution would comprise the Regional College of Technology, the College of Domestic Science, the College of Art, and, as developed, Colleges of Commerce, Catering, Music and Drama. This, we think, is most important, both for the positive reason of giving status to the institutions providing these forms of education, and also in order to avoid a severe sense of disappointment or of failure in a situation of comparison with the university world. A university is a university because at its level it is a multi-functional institution; it is the interplay of faculties one with another which gives a university its character. In its own way and at its own level this should also be true of the Ulster College. It could have an inner corporate life of its own in which, for example, its arts and its technical resources would support each other in

STANDARD

Higher National Diplomas
Higher National Certificates
National and Professional
Diplomas and Certificates
Advanced Technician Courses and
others of similar purpose and standard

Ordinary National Diplomas and
Certificates
Technician and Craft Courses
Continued general education to
G.C.E. Advanced Level
Other courses up to equivalent standard

Ordinary and First Certificates
for Technician and Craft Courses
Courses of equivalent standard
Continued general education to
G.C.E. Ordinary Level

ULSTER COLL

REGIONAL COLLEGE OF TE

COLLEGE OF ART

COLLEGE OF DOMESTIC SCIENCE

COLLEGE OF MUSIC AND DRAMA

COL

AREA COLLEGE

BELFAST AREA	LONDONDERRY AREA	COUNTY ANTRIM	COUNTY ARMAGH
BELFAST CREGAGH LISBURN NEWTOWNABBEY	LONDONDERRY	BALLYMENA LARNE	LURGAN/ PORTADOWN (NEW CITY)

BAN
NEW
NEW

LOCAL COLLEG

BELFAST	ANTRIM	BALLYMONEY	ARMAGH	BALLYNAHINCH	BANBRIDGE

DO

ULSTER COLLEGE

REGIONAL COLLEGE OF TECHNOLOGY

COLLEGE OF ART

E OF DOMESTIC SCIENCE

COLLEGE OF MUSIC AND DRAMA

COLLEGE OF COMMERCE

COLLEGE OF CATERING

COLLEGE OF PHYSICAL EDUCATION

AREA COLLEGES

DERRY A	COUNTY ANTRIM	COUNTY ARMAGH	COUNTY DOWN	COUNTY FERMANAGH	COUNTY LONDONDERRY	COUNTY TYRONE
DERRY	BALLYMENA LARNE	LURGAN/ PORTADOWN (NEW CITY)	BANGOR OR NEWTOWNARDS NEWRY	ENNISKILLEN	COLERAINE	OMAGH OR COALISLAND/ DUNGANNON

LOCAL COLLEGES

AGH	BALLYNAHINCH	BANBRIDGE	DOWNPATRICK	KILKEEL/ NEWCASTLE	LIMAVADY	MAGHERAFELT	OMAGH OR COALISLAND/ DUNGANNON	STRABANE

GOVERNANCE AND FINANCE

GOVERNANCE	*FINANCE*
Independent Board of Governors with related Advisory Committee and Boards of Studies	Exchequer

Local Education Authority Committees including Co-opted Members from Industry and Commerce	Rates and Exchequer

Local Education Authority Management	Rates and Exchequer

[*To face page 98*

social activities and enterprises. This, we are convinced, will prove to be the accepted pattern of development over the next decade or so for institutions providing high-level non-degree courses. We hope that in this sphere of non-degree work Northern Ireland will lead the way and that the Ulster College, as a multi-functional institution, will be enabled to play an effective part in higher education alongside the multi-faculty universities.

276. No less important is the need to provide the right form of governance for the College and the right method of financing it. The several units of the proposed Ulster College should, therefore, be brought together under a single Board of Governors. This Board, in addition to the Principal of the College and an outside lay membership selected by virtue of interest in and suitability for the work, should contain adequate representation from the staff of the component parts of the College. Appointments to the Board should have regard to the continuity of the educational well-being of the College rather than to political, professional and other extraneous considerations. The Board should initially be appointed by the Minister of Education with the usual provision for its reconstitution as required and for the regular replacement of a proportion of its membership. The Board should be given significant powers, including the power to appoint committees (not necessarily solely from within its own membership) to supervise the activities of the several units comprising the College. The College should be financed by direct grants, both capital and recurrent, from the Ministry of Education, and the governing body should be encouraged to plan well ahead by estimating grant requirements on a triennial basis. In the making of academic appointments and in academic organisation the College should, as in the matters of management and finance outlined above, also follow the principles set out in the Robbins Report*.

277. For a period of perhaps five years after the establishment of the Ulster College the Board of Governors should be supported by an Advisory Committee appointed by the Minister of Education and constituted after a fashion similar to the Academic Advisory Committee for the new university. This Committee should include representatives from universities and from industry both in Northern Ireland and Great Britain, and its function should be to assist the Governors in bringing the College into a full state of development as quickly as possible. Its existence should not detract from the responsibilities of the Governors with whom the principal initiative in development should lie, but its direct interest in the College and its availability for consultation in the initial years should greatly reinforce the efforts of the Governors and should help to ensure that the direction of development will be in the best interests of Northern Ireland.

278. In Paragraphs 253 and 256 we indicated that we would consider in this chapter the administrative arrangements for certain features of specialised professional training for teachers. The method of giving professional training to technical teachers which we suggested in Paragraph 256 could, we think, best be provided in the Regional College of Technology in Belfast and, as the Regional College and the Belfast College of Domestic Science

* Robbins Report: Paragraphs 681–682. Appendix I, 3.

and the Belfast College of Art will form component parts of the Ulster College, the ultimate responsibility in these fields of teacher education will rest with the Board of Governors of the Ulster College. We have anticipated the development of a closer association between the Belfast training colleges and Queen's University, and we think it would be provident to arrange for all the teacher training activities of the Ulster College to be supervised by a special committee of the Board of Governors which would contain a measure of University representation and representation also from the Ministry of Education. We would hope that this committee would keep in close touch with developments within the general training colleges and would seek to ensure that in the development of an association with Queen's University the specialist training given within the Ulster College would receive no less recognition from Queen's University than the work done in the general colleges.

279. The changes which we have suggested in the structure of higher technical education should enable the constituent colleges of the Ulster College and the area colleges to become focal centres for cultural activities. Because of their artistic and technical resources and expertise, they could provide not only a wide range of courses but stimulating and constructive meeting places for drama and music. With appropriate staffing and resources some of these developments could become outstanding. In sum, they could and should become colleges for the community, and in assuming this new role they could transform their traditional functions without debasing or imperilling them.

280. Future proposals for further education in its widest sense must be no less compelling than proposals for university development and must be supported by a building programme no less significant and imaginative and entailing, as an ultimate target, the designation of a precinct of a size adequate to house all the components of the Ulster College. The existing Belfast College of Technology building will not be adequate to serve the functions which we visualise for the Regional College of Technology, and a new building will have to be provided in Belfast with all necessary facilities for the amenities of both full-time and part-time students and staff, for an appropriate measure of residential accommodation, and with ample facilities for car parking. The sites within the precinct which will require urgent acquisition must depend on the extent to which it is likely to prove possible in the near future physically to associate the establishments from which the Ulster College will be composed. We consider that this should be done initially for the Regional College of Technology and probably also for the proposed Colleges of Commerce, Catering, Music and Drama. At least 10 acres, we think, are required for the Regional College alone.

CHAPTER X

SOME OTHER ASPECTS OF HIGHER EDUCATION

281. There are several other aspects of higher education on which we wish to offer comment. We propose first to deal with the relations between secondary and higher education, secondly with the arrangements for admission to higher education, and thirdly with a number of points affecting teachers and students in higher education. Next we make some observations on part-time and community education and on public libraries, and lastly we consider some aspects of the development of further education institutions, such as the agricultural colleges, which are outside the domains we have so far covered.

The secondary schools and higher education

282. The following table shows the numbers of students who in 1963 ceased full-time attendance at secondary schools and technical institutions* after having gained one or more passes at Ordinary level in examinations for the General Certificate of Education† and, separately, those leaving with at least one pass at Advanced level. It gives an approximate guide to the levels of work presently being done in the several types of educational institution which provide the entrants to higher education:—

Year 1962/63	Secondary Grammar Schools	Secondary Intermediate Schools	*Technical Institutions
"O" level passes only ...	2,159	297	321
"A" level passes	1,868	24	71

The recent statement of Ministry of Education policy in the White Paper of June, 1964 declared that, in general, courses for pupils over the school leaving age which are predominantly vocational should continue to be provided as further education courses in technical institutions, and that courses of an academic type beyond Ordinary level should be provided in grammar schools‡. The White Paper also proposes an ultimate discontinuance of junior technical schools and a merging of their work with the work of secondary schools.§

283. The main source of recruitment to higher education will clearly continue to be the grammar schools or other secondary schools which are organised to provide courses of the same standard. The introduction of the Northern Ireland General Certificate of Education has provided a system in which Ordinary level syllabuses are directed unequivocally to a five-year course. There is, therefore, no reason why a two-year interval between Ordinary and

* Mainly junior technical schools.
† Northern Ireland General Certificate of Education and the General Certificate of Education of examining bodies in England and Wales.
‡ White Paper: Paragraph 26.
§ White Paper: Paragraph 40.

Advanced levels should not be the normal pattern, and a two-year period in the sixth form commonplace for intending entrants to higher education. The grammar schools will, we hope, achieve this objective with the minimum of delay.

284. We hope also that the grammar schools will take stock of the courses which they provide and consider what changes may be necessary in the future preparation of young people for university and other higher education in the light of our recommendations. We do not propose to try to balance school studies against the development of higher education, but we think that, if Queen's University is to give the greater emphasis to applied science and technology which we urge, and if the new university is to prosper with a bias towards the biological sciences, there must be an enthusiastic attitude in schools towards science subjects. We understand that provision is being made increasingly for the teaching of these subjects, but much still remains to be done, particularly among girls*. We have been informed that the Scottish Education Department has been trying to relate the growth of subjects to the needs of the economy by stimulating interest in schools in certain directions and that as a consequence certificate examination papers have been introduced in engineering and applied physics. This direction of development could profitably be examined also in Northern Ireland. Engineering and other applied science subjects are, of course, available from bodies like the Associated Examining Board ; but such subjects have hitherto been taken by pupils in technical institutions.

285. We hope too that every opportunity will be taken to encourage many more girls to go to university. The information at our disposal shows clearly that up to Ordinary level the performance of girls is very little inferior to that of boys. Thereafter there is a marked decline in the proportion of girls remaining at school to follow Advanced level courses, and an even greater decline in the proportion entering universities†. This has been due in the main to traditional reasons. Girls have long shown a preference for teacher training and other courses for which Advanced level passes are not a prerequisite for admission, and parents have often considered it important to use their resources in fitting their sons for careers rather than their daughters. Our proposals for merging teacher training with university courses should reduce the effect of the first of these. The second argument is also less valid, since teacher training scholarships are now assessed on the same basis as university scholarships, and since married women are encouraged to resume their careers later in life. As a result it seems reasonable to expect a greater increase in the number of girls proceeding to universities than of boys, but this will only come through a change of attitude on the part of parents and of the community at large. In matters of this kind parents often look to the schools for guidance, especially those who themselves did not receive secondary education, and we believe that the schools can do much to accelerate this change.

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* This may be illustrated by the fact that, of the 1,610 boys and 915 girls who obtained one or more passes at Advanced level in examinations for the Northern Ireland General Certificate of Education in 1963/64, 489 boys but only 125 girls passed in chemistry, 106 boys and 57 girls in biology and 29 boys in geometrical drawing. Of the 817 candidates who passed in physics, only 126 were girls, and, of the 630 who passed in at least one of the mathematical subjects, only 128 were girls.

† Paragraph 34. Appendix VII, Tables 4–7.

286. Close co-operation between schools and institutions of higher education is essential to the progress of education as a whole. We were glad to learn of the formation of bodies such as the Council of Queen's University and Schools and the committee which directs the examinations for the Northern Ireland General Certificate of Education. These bodies in their separate ways have brought representatives of schools and institutions of higher education together. For the future, continued co-operation is required, and the pattern being set in England and Wales by the establishment of the Schools Council for the Curriculum and Examinations may offer some guidance. This body does not, however, cover all relationships. Northern Ireland is too small to justify a multiplicity of separate bodies with separate functions and we hope that, in the changed circumstances which will arise out of our Report, the Ministry of Education will examine whether the necessary co-operation could not best be achieved by the setting up of a single body representative of both universities and of other institutions of higher education and schools.

Admission to higher education

287. We have stressed the importance of student interchange which would provide a most effective means of countering the apparent psychological effect of the physical separation of Northern Ireland from Great Britain*. Queen's University and, upon its establishment, the new university should either join or form an effective working association with the Universities Central Council for Admissions. Queen's University, we understand, sends observers to meetings of the Council. The inclusion of the Northern Ireland universities within the operations of the Council should make it more likely that students who come to Northern Ireland from Great Britain will come as a result of deliberate choice rather than through failure to find places in universities in Great Britain. It would also help to encourage Northern Ireland students to take a wider view of the opportunities open to them, and might encourage some who otherwise would incline to remain at home to embark on courses more suited to their needs outside Northern Ireland. There need be no fear that a formal association with the Council would make it more difficult for the output of Northern Ireland schools to find university places. The decision to take or to reject an applicant rests with each university and, subject to our views on interchange generally, the Northern Ireland universities will be free to determine to what extent they wish their students to be of local origin. It is in any event important that, being universities of the United Kingdom, the Northern Ireland universities should not stand aloof from arrangements of such general application.

288. On the training college side a number of students from England and Wales enter Stranmillis College annually through the machinery of the Central Register and Clearing House for training college admissions in England and Wales. This, along with the further arrangement whereby students from Northern Ireland receive training scholarships for courses at colleges in Great Britain, and students from Great Britain similarly receive scholarships when undergoing training in Northern Ireland, provides a foundation which is capable of extension as circumstances demand. We think it important that the Education Centre at the new university should be able to

* Paragraphs 145–149.

attract a proportion of students from Great Britain. As a new and experimental venture, and because of its close university association, it should be enabled and encouraged to attract not only its students but its staff from a wider field than would be expected of a traditional training college. We hope too that the proposed Ulster College will recruit widely and will maintain close contact with institutions in Great Britain.

Teachers and students

289. We received a variety of comments on the staffing of institutions of higher education, in particular the view of Queen's University that its student/staff ratio in 1962/63 was less favourable than the average for universities in Great Britain.* While this may be true in comparisons of some departments with similar departments of some universities in Great Britain and, while we would like to see more staff engaged on postgraduate work and on research, we could *not* establish that the position at Queen's University was less satisfactory than the position generally in Great Britain. Staffing ratios mean little when separated from the context of teaching needs and methods, and we hope that due regard will be paid to the report of the Committee on University Teaching Methods under the chairmanship of Sir Edward Hale.† We also received evidence impressing on us the value of the "tutorial" system, a term which, as the Robbins Committee also found, was not always clearly defined.‡ We see no special virtue in "tutorials" in the sense of formal lectures delivered to very small audiences, and we doubt the practicability of any extensive application of the single-pupil tutorial system. But the regular and systematic setting and returning of written work provide the student with a focus of attention in arranging his studies. Moreover, attendance at lectures is important in giving students a necessary frame to a week's work, in making them feel part of a community of learning, and in leading to a wider intellectual contact with fellow-students than membership of small classes alone can give. We endorse the commendation by the Robbins Committee of the practice of assigning a student at entry to a tutor or supervisor of his studies whom he can consult at any time over his work and, if he wishes, his personal affairs. We hope that this practice will be developed further by Queen's University, and will be adopted by the new university and, as far as is justified, by the Ulster College for its full-time students.

290. Our comments in the preceding paragraph are of general application to all institutions of higher education. So also is our view that technical and secretarial help are essential for the effective work of teachers in higher education.§ It is wasteful for teachers in higher education to spend an undue amount of time on routine administrative and clerical work. During the coming period of growth in all the institutions of higher education in Northern Ireland it will be increasingly important to ensure that teaching staff are not sidetracked into work which is not directly connected with their teaching or research, and which could be done more economically, and possibly more efficiently, by others trained in the particular skills required.

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* Paragraph 67.

† University Grants Committee: Report of the Committee on University Teaching Methods. London H.M.S.O., 1964.

‡ Robbins Report: Paragraphs 564–573.

§ Robbins Report: Paragraph 547.

291. We wish also to endorse the views of the Robbins Committee* on the obligations of staff and students in higher education and of the Robbins Committee† and the Hale Committee‡ on the use of vacations by students. Staff and students in higher education are privileged persons. The university teacher in particular has a unique freedom in arranging his work and he has a wide liberty in the interpretation of his professional duties. Students are privileged by having exceptional opportunities provided for them by the labour of the community. They are under obligation to make the best of these opportunities. We believe that, in general, too many students regard vacations as prolonged holidays. While a reasonable portion of vacation periods should be set aside for rest and recreation, students should be expected during vacation to engage in work of strict relevance to the courses being pursued, and they should receive adequate guidance on what they are expected to achieve.§

292. Student amenities at institutions of higher education in Northern Ireland are deficient, as is shown by our survey in Chapter IV. But expansion has been so rapid since about 1950 and there have been so many calls on public funds that it is creditable that so much has been achieved. The provision of amenities is, however, very important. There is no evidence of any lack of desire on the part of the authorities to provide good refectories, adequate playing fields, and more space for social occasions. But, if funds available are not adequate to meet all needs simultaneously, student amenities must inevitably take their place in the financial queue behind urgent building needs for teaching accommodation.

293. Living accommodation for students is academically as well as socially important and we wish to stress the value of the maturing influence of proper residential accommodation for undergraduates and other students in higher education. Regular commuting is, in our view, very undesirable.‖ But in a period of rapid expansion it may not be possible to provide more than lodgings ; and even this may be difficult. We nevertheless hope that facilities in both traditional and experimental form (we contrast halls of residence with student houses and flats) will be provided as extensively and as quickly as possible. Until such time as adequate residential facilities are provided, the need for accommodation where students can read and work is even more pressing and, as an expedient, we urge the opening of reading and other rooms and of refectories for prolonged hours both in and out of term to satisfy all reasonable student demands.

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* Robbins Report: Paragraph 598.

† Robbins Report: Paragraphs 596–597.

‡ University Grants Committee: The Use of Vacations by Students. Interim Report of the Committee on University Teaching Methods. London H.M.S.O., 1963.

§ " Without guidance on the use of the vacation the student tends to keep it clear for earning or other activities, too often of a trivial character, instead of using it to prepare himself for the next term's work or catch up with reading which has been crowded out in term-time. The result is that the student's course may become *quite* unbalanced, with periods of high and low academic activity alternating in a way which has little rational justification. Apart from reasonable holidays, the vacation should differ from the term in the type rather than in the intensity of the student's academic activity, the term being the time when he takes full advantage of his teacher's availability, the vacation that when he learns to work on his own; and to work effectively on his own is perhaps the most important thing that he should use his university course to learn ". (Interim Report of the Hale Committee: Paragraph 15).

‖ Paragraph 221.

294. We received evidence, mainly from student sources, bearing on many aspects of students' grants, including the arrangements for award, assessment and payment. Northern Ireland award arrangements now follow substantially the same principles as arrangements in Great Britain*, and we hope that award-making bodies will continue to offer grants for both non-degree and degree courses, undergraduate and postgraduate, which will prove adequate in number and in value to the developments in higher education we have proposed and that, in the few remaining cases where future employment conditions are imposed†, this restriction will be removed.

Part-time and community education

295. We wish to comment on the provision of facilities for part-time study for degrees. We distinguish such study which involves attendance at university classes from that for external degrees which can be gained through private reading or correspondence courses. Notwithstanding the obvious advantages of full-time over part-time study, work for degrees on a part-time basis should be generally encouraged.‡ Facilities should be offered by both universities in subjects for which there is reasonable demand, subject only to the physical and financial limitations imposed by subjects with a high professional content requiring also elaborate accommodation and equipment. Teachers represent a group within the community for whom in particular there should be ample opportunities for further study leading to further qualifications; yet, although part-time study leading to diplomas is already available to a considerable extent at Queen's University, the only part-time degree facilities available are courses leading to a degree in economics.§ We hope that part-time facilities at Queen's University will be extended in degree as well as non-degree courses and that similar facilities will be offered by the new university. Financial assistance where necessary for part-time students is important.

296. We have considered to what extent use might be made in Northern Ireland of the facilities to be offered by the Council for National Academic Awards.‖ We understand that arrangements can be made, if desired, to extend the scope of the Council's activities to include Northern Ireland. If, however, the two universities open up a wide range of opportunity to students to study for full-time and part-time degrees, if teacher education becomes closely associated with university work, and if satisfactory arrangements are made for the movement of students between the proposed Ulster College and Queen's University, then we doubt whether any substantial use would need to be made in Northern Ireland of the facilities offered by the Council. It is difficult to foresee all the developments of the years ahead when two universities will be operating and, as some flexibility may be necessary, we consider that the way should be left open for the Council to operate within Northern Ireland to whatever extent may prove necessary.

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* Paragraph 35.
† Paragraph 304.
‡ Paragraph 269.
§ Paragraph 47.
‖ Robbins Report: Paragraphs 433–434; 799. Appendix VI, 4.

297. The Report of the Morris Committee* recommends that in the future adult education classes should be organised at two levels, those of university standard under university auspices and others by the Northern Ireland District of the Workers' Educational Association. The former type of class impinges on our work and we believe that the provision of extra-mural facilities is a most important social responsibility. We hope that Queen's University will develop that part of its work to a much greater extent than has been customary in the past and that the new university also will recognise the importance of extra-mural work. Both universities should consider organising extra-mural courses which could lead to the award of a certificate acceptable in lieu of matriculation in one or more subjects. An arrangement of this kind could lead also to a very desirable increase in part-time study for degrees by mature students.

298. We believe that television will make an increasingly significant contribution to part-time mass education.† Much greater use could be made of this medium by the broadcasting organisations, especially in the light of the Morris Report.* The television channels of the United States, and of France and Italy particularly among European countries, have shown how adult education policies can be accelerated by television techniques. Northern Ireland can claim pride of place within the United Kingdom in having been the source of the first regular adult educational programmes when in 1962 Ulster Television produced its "Midnight Oil" series with the help of members of the staff of Queen's University. We understand that Queen's University has agreed in principle to a three-year experiment in the establishment of a special educational television channel during peak viewing hours with financial assistance from the Independent Television Authority, subject to the granting of a licence by the Postmaster-General. We welcome this experiment and hope that its introduction will be facilitated.

299. Television can take knowledge directly into every home and its potential value for extra-mural work, especially in rural areas, is undoubtedly great. It can use attractive and non-traditional teaching methods. The teacher, though physically remote from his class, can with skilled direction be just as effective. The best of lecturers can be brought before an unlimited student body. The more remote the district, the greater is the need for educational television. We hope, therefore, that its availability will not be limited to low power transmissions in areas of concentrated population. But personal contact between lecturer and lectured must not be lost: there seems no reason why the more purposeful aspects of educational television should not be associated with classes on more traditional lines in, for example, programmes directed towards serious degree study, or in refresher or instructional courses for professional people organised in co-operation with professional institutions.

300. Mass communications cover a very wide field of interest. They include not only wireless and television and the press but also marketing, advertising and public relations. Marketing is of growing importance both in

* Paragraph 4.
† Appendix VI, 1.

increasing the efficiency of commercial operations and in stimulating demand, and is now a very significant public activity. The value of experience in mass communications has still effectively to be recognised in Northern Ireland. If, for example, the products of technology are to be profitably exploited, technology must be supported by economic and market research. There is room for a school of communications which would be concerned with instruction and research in some or all of these fields of interest and, while we propose that the Education Centre at the new university might engage in research into methods of educational communication*, we think that Queen's University is well suited to engage in original work in modern communication methods and to offer courses of an appropriate academic content to undergraduate, postgraduate and diploma students. In an increasingly complex society the needs of the 1970s must be anticipated, and practitioners of high ability in communications will be required if the United Kingdom is to continue to compete effectively in the world at large.

301. The securing or establishment in Belfast of adequate facilities for the mounting of musical and theatrical productions of cultural value would greatly strengthen the opportunities for community education. We consider that this concept, which has been examined from various standpoints on earlier occasions, could assume a new importance in relation to the development of Queen's University and the Ulster College. As well as providing a stage for high quality productions in music and drama such facilities could provide a practical training ground for the development, for example, of new techniques in educational television.

302. The public library is a long-established source of community education and we wish to pay tribute to the work which has been done in Northern Ireland by the public library service. The Queen's University library and the library of Magee University College also have fulfilled a valuable public function by their willingness to support non-university readers in a variety of circumstances. A good public library service is a necessary adjunct to the growth of higher education and we hope that the appointment of a Committee under the chairmanship of Dr. J. S. Hawnt to advise on public library development will be followed by a notable advance. Representations have been made to us favouring the establishment of a copyright deposit library in Northern Ireland. We assume that this will be considered by the Hawnt Committee.

Other higher education institutions

303. Besides the higher education institutions which will form the Ulster College, there are others which provide higher education facilities to a greater or lesser degree. These are mainly vocational in their outlook and function and are separated administratively from the main stream of educational provision. The arrangements recently proposed for the future education and training of nurses will, when they become operative, add to the number of institutions in this category. We have not enquired in any detail into the facilities provided in any of these establishments other than

* Paragraph 237.

Loughry Agricultural College nor into the arrangements for their government.

304. It has been represented to us that Northern Ireland could provide training for a large number of young people for employment in the medical auxiliary services in all parts of the United Kingdom. The present financial and administrative arrangements for training in these occupations, for example as radiographers and physiotherapists, limit intake to the estimated numbers required for service in Northern Ireland only and students' grants are usually conditional upon an undertaking by the student to seek employment in Northern Ireland when qualified. We consider this most regrettable in view of the much greater number of Northern Ireland young people desirous of following these occupations and in view of the serious shortages of qualified practitioners in Great Britain. This distinction in treatment arises because these forms of education and training are financed not from "educational" funds but from funds made available for the provision of a particular service, for example the hospital service. Such a distinction is not justifiable in the context of today. There is a public responsibility to all young people capable of an opportunity of further education and, subject to a reasonable likelihood of employment being available in some part of the United Kingdom or overseas, the direction of interest of each young person should as far as possible be met. We hope that the undertaking requirement will be reviewed quickly by the department or departments concerned.

305. The Ministry of Agriculture has expressed the hope that Loughry Agricultural College might be enabled to engage in postgraduate work which would be recognised by, and lead to degrees of, Queen's University.* Loughry College would, we think, be a particularly suitable centre for applied research. We are of the opinion that postgraduate studies which are at present being considered for introduction or development at Loughry College, for example in agricultural communications, should be authorised on the understanding that their continuance will be subject to review in consultation with the authorities not of Queen's University but of the new university which will be responsible for the general framework of agricultural studies at postgraduate as well as undergraduate level.

306. We have noted the dissociation of agriculture from other educational disciplines in Northern Ireland,† in contrast with the position in England and Wales where, in 1959, the Ministry of Education assumed the educational responsibilities of the Ministry of Agriculture and Fisheries. In view of this change we consider that the arrangements for non-university agricultural education should be reviewed by the Ministries of Agriculture and Education. The rational development of higher education must be supported by properly co-ordinated educational provision at the supporting levels. We have stressed this point in our comments on technical education and it is no less relevant to agricultural subjects.

* Paragraph 129.
† Paragraph 127.

CHAPTER XI

ADMINISTRATION AND FINANCE

Co-operation and co-ordination

307. We have already emphasised the importance of effective co-operation in the provision of educational facilities between schools and institutions of higher education*. But effective co-operation within higher education is equally important: between the universities on the one hand and training colleges and the Ulster College and institutions like Loughry Agricultural College on the other; and between the Ulster College with its contributory area colleges and agricultural colleges generally and schools and colleges auxiliary to medicine. All of these have an interest in the progress and promotion of higher education. We consider that for the future some arrangements should be made by the Government to ensure that each is aware of the other's problems and intentions, and that the development proposals of individual institutions are adequately associated with development intentions in higher education generally.

308. Perhaps the fact that we are the first Committee appointed in Northern Ireland to advise on higher education with widely drawn terms of reference was responsible for the quantity and scope of the evidence which we received. This clearly demonstrated the wide range of public interest in our investigations, but in the time available it has not been possible for us to do more than touch on some other problems which are pertinent to the development and progress of higher education. There is therefore a need, in addition to the need indicated in the paragraph immediately above, for periodic reviews of the kind entrusted to us and for permanent machinery to service them.

Research and statistical information

309. We have collected much statistical and other information during the short period of our inquiry and we have recorded some of it in the appendices. Much of this was not readily available from published sources and had to be extracted specially for us. The data processing unit at Queen's University provided us with many particularly informative tables. Our experience emphasises the need for a permanent statistical service to supply regularly not only such data, but also information which we sought but which could not be assembled in the time at our disposal.

310. Educational statistics in Northern Ireland follow the pattern of the Northern Ireland educational system as distinct from that of England and Wales or Scotland. It is, therefore, not possible to have absolute statistical uniformity within the United Kingdom. We understand that, mainly to facilitate the provision of information for international purposes, the Ministry of Education is endeavouring to bring its statistical material as much into line as possible with the pattern which is emerging for Great Britain. This

* Paragraph 286.

is welcome, as also is the establishment of the Northern Ireland Council for Educational Research*. More research into educational trends is needed: one clear example is the increasing interest being taken by women in further and higher education.

311. We feel the same concern as the Robbins Committee that statistics relating to education as a whole should in future be collected on some common basis and that the organisation of a statistical service should facilitate research into problems which may overlap departmental boundaries†. Such a service should cover all educational institutions, including the universities, and also central and local government departments, and should work in close co-operation with the research unit set up in Great Britain as a result of the recommendation contained in the Robbins Report. The establishment of an adequate statistical service is a prerequisite to the satisfactory working of the continuing machinery which we regard as essential for the future.

Costs

312. We now turn to the important question of costing our proposals and we begin by stressing that the ultimate cost of higher education is what is forgone by devoting resources, including the potential services of the students, to this purpose rather than to something else‡.

313. Expenditure on higher education in Northern Ireland in the year 1962/63 by the Exchequer and by local rates, other than expenditure on capital works, amounted to £3·4m. Of this, about £3·1m. was borne directly by the Exchequer. Part of the balance was also borne by the Exchequer through the General Exchequer Contribution§.

314. In the period from 1st April, 1946 to 31st March, 1963, the Exchequer met capital expenditure of £8,085,000 at Queen's University, of £49,000 at Magee University College and of £140,000‖ at Loughry Agricultural College; and further expenditure is planned. In the present financial year, for example, provision has been included in the Supply Estimates for capital grants to Queen's University of £2·4m. We understand that capital expenditure at Queen's University will continue under the University's present building programme at approximately this rate for the next year or two. The total of capital expenditure on training colleges in the same period has amounted to £710,000, but works at an advanced stage of planning will cost the Exchequer a further £1·8m. It is not possible to express capital expenditure on higher education in terms of an annual average as capital expenditure is met in part by grants and in part by loans. It is, however, evident from the figures made available to us that the bulk of capital expenditure so far on facilities for higher education has been incurred on university development.

315. These sums of money are not out of keeping with the expenditure from public funds in Great Britain in 1962/63 which was recorded in the Robbins

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* Appendix VI, 3.
† Robbins Report: Paragraphs 805–806.
‡ Robbins Report: Paragraph 601.
§ The General Exchequer Contribution is a Government grant which is given in general relief of the total net revenue expenditure of a local authority and is not paid in respect of any particular service. It is calculated in such a way as to give extra assistance to the poorer authorities. It includes full compensation for loss of rates on derated hereditaments.
‖ Apportionment to higher education of a total expenditure of about £600,000.

Report as £162m. of current expenditure and £57m. of capital expenditure. Of this total of £219m. the Robbins Committee allocated £206m. to full-time education, and it expected this latter figure to increase by 260 per cent. to £742m. in 1980/81. Within this total of £742m. capital expenditure is expected to be at double its present rate and current expenditure to have increased by more than four times. The Robbins Committee warned against their estimate being regarded as one which had been capable of precise calculation, but stressed that it indicated the order of magnitude involved.*

316. We have not attempted to cost our proposals precisely, but we would expect Northern Ireland's needs to call for a similarly increased allocation of public funds. In the case of recurrent items, as we have pointed out above, public expenditure on higher education was running in 1962/63 at a rate of about £3·4m. By 1980/81 on the basis established by the Robbins Committee, it could amount to over £13m. These figures, it should be noted, are based on current costs and make no allowance for salary revisions or similar increases.

317. The post-War expansion of Queen's University from about 2,000 students in 1945/46 to 5,170 in 1967/68 will have cost over £15m. in capital expenditure, and even by 1967/68 further buildings will be required to provide proper facilities for a university of that size. If Queen's University is to expand by approximately another 2,000 students by 1980/81, it seems probable that in the intervening years a further large building programme must be undertaken. No precise costing is possible, but a figure of perhaps £10m. to £15m. will be needed. Expansion of facilities for higher technological studies is bound to be expensive. Moreover, halls of residence built in high blocks to save space will also be costly.

318. In addition there will be the cost of the second university. This will take time to plan and to build and so the call upon the Exchequer will not come immediately. Experience in Great Britain suggests that a new university may be expected to have between 400 and 500 students three years after building commences. After this, numbers must increase more rapidly to reach between 2,000 and 3,000 students by 1973/74.† These calculations are based on building projects being phased at a rate of £1m. of "starts"‡ a year. If it were possible to increase the allocation of money available for capital works, the growth of the student body might of course be accelerated. Our proposal for an Education Centre incorporated in the new university will almost certainly necessitate more than £1m. of "starts" per year. If a rate of £1·5m. of "starts" per year is assumed, then by 1980/81 expenditure of the order of £20m. will have been incurred or be under way.

319. The establishment of the Ulster College and the building in Belfast of a Regional College of Technology and Colleges of Commerce, Catering, Music and Drama, with proper residential and recreational facilities, will also call for a major programme of capital expenditure to be completed by 1980/81. So too will the provision of proper facilities in the selected institutions of further education which will be called upon to play the role of area colleges.

* Robbins Report: Paragraphs 604, 612.
† Paragraph 184.
‡ The total cost (when completed) of the buildings on which work starts in each year.

Again, precise figures cannot be forecast, but perhaps expenditure of a further £15m. should be contemplated.

320. In all, therefore, we would expect that by 1980/81 capital expenditure of the order of £50m. will have been required to put our proposals into effect. The necessary expenditure would probably be spread fairly uniformly over the intervening years. Recurrent expenditure will rise more gradually since it will depend not only on the availability of buildings but also on the build-up of student numbers.

321. Institutions of higher education in Northern Ireland have very little income from sources other than the Exchequer. We are aware that in Northern Ireland rates are not payable on university buildings and that, as university premises expand, freedom from rates represents an important concession so far as local authorities are concerned. The total contribution to the funds of Queen's University by direct grants from county and county borough councils in Northern Ireland is about £20,000 per annum,* of which £7,500 is contributed by the Belfast Corporation. These figures are insignificant within the University's total annual budget for current expenditure of over £1⅓m. We consider that not only should Belfast Corporation increase its grant to Queen's University but also that all major local authorities should make significant annual grants to the University. All major local authorities should similarly contribute to the income of the new university, but, notwithstanding our view that both universities are universities for Northern Ireland as a whole, there will be a particular responsibility on the authorities with whose areas the new university will have the closest association. This, we understand, will require enabling legislation. Major local authorities should also be enabled to give significant annual grants to the Ulster College, and we assume that the buildings of all institutions of higher education will enjoy exemption from rates.

322. The importance to a university and other institutions of higher education of income from sources other than public funds is great and we hope that major industries will consider seriously how much they can contribute. Similarly we commend Queen's University, the new university, the Ulster College and all other institutions of higher education to those with the means to give them endowments or covenanted gifts whether or not they live in Northern Ireland. Income from fees, as has been pointed out by the Robbins Committee, may largely come from the Exchequer, but it is "a source of strength that public finance should come through more than one channel".† Fees should, therefore, be kept at a reasonable level.

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* In addition, of the fixed annual expenditure by the local authorities of £160,000 per annum on university scholarships (the ever increasing balance being met in full by the Exchequer) an apportionment of about £30,000 per annum could probably be attributed to tuition costs at Queen's University.

† Robbins Report: Paragraph 652.

CHAPTER XII

CONCLUDING COMMENTS

323. In concluding, we wish to comment again on several matters by way of reinforcement of views expressed in earlier chapters of our Report. The first of these matters to which we attach special importance is the place of the university in modern society, the second is closely related and concerns the extra-mural responsibilities of universities, and the third is the inevitable continuing upward pressure on places in higher education and the consequent increasing public expenditure for which resources will have to be found.

324. Our Report has been built around university development, for it is to universities that the community naturally looks, and will continue to look, for academic leadership in higher education. Universities have reason to be conscious of their important responsibilities to the community of which they are a part. While there is danger in too wide an interpretation of these responsibilities leading to a wasteful diffusion of effort, there is one particular responsibility which they should readily accept. It is the use of their great and growing influence to encourage, to sustain and publicly to demonstrate their belief in the value of non-degree work of the kind which will characterise the Ulster College.

325. It will be some years before the second university in Northern Ireland is fully established and we, therefore, make a special appeal to Queen's University to assume a substantial measure of general social responsibility by demonstrating a benevolent interest in guiding and helping the development of further education in its wider context. The assumption of such a function by a university may not be traditional, but it would be one of great value to Northern Ireland. It would be much easier in Northern Ireland than in Great Britain to achieve this objective. We hope that industry and employers generally will help Queen's University and later the new university in this, and that the associated interest will go deeper and extend to the whole field of the relationship between industry and education.

326. A similar special responsibility lies in the fullest possible development of extra-mural activities: the organisation of lectures, seminars, conferences, etc. on a part-time or short full-time basis, and the full utilisation of modern media for mass communications, especially television. All indications are that the need for these will grow with increasing developments in scientific, commercial and professional work and in government and social activities and practices. Both universities should wholeheartedly develop and support these at a scholarly and professional level in ways which will supplement the functions of other institutions of higher education.

327. It is impossible to project beyond 1980 our calculations of the numbers of places required in higher education, but we are satisfied that in the 1980s the need for places will continue to increase. What we cannot predict is how much further or how fast. Yet before the end of the century the need

for a third university may well have been established.* Our problem throughout has not been with actual numbers at any time or even maximum numbers; we have been concerned only to establish orders of magnitude and to suggest a related educational pattern which will be capable of further expansion if circumstances so demand.

328. Our estimate of numbers for 1980, and the consequent cost in taxation and in rates, will make some members of the public apprehensive about the practical value of this additional and prolonged education. But the public cannot ignore the vital contribution which higher education makes to the economic, social and cultural life of a community. There may be no precise or accurate method of calculating the return on investment in education, but that there will be a very substantial return is incapable of denial.

329. The Robbins Committee argued persuasively that Great Britain could not afford to fall behind countries overseas in higher education. No more can Northern Ireland. In this Report we have suggested some ways in which, given the necessary initiative, zest and material provision, Northern Ireland could take a lead.

JOHN LOCKWOOD (*Chairman*).
J. A. GLEN,
R. B. HENDERSON,
WILLIS JACKSON.
W. H. MOL.
A. R. MURRAY.
DENIS REBBECK.
PETER VENABLES.

W. T. EWING,
Secretary.

Z. I. DAVIES,
Assistant Secretary.

27*th November*, 1964.

* Paragraphs 152, 222.

SOURCES OF EVIDENCE

The following organisations and persons gave written evidence:—

Mr. D. H. Abbott
Sir Cuthbert Ackroyd, Bt.
Mr. R. Adamson
Armagh County and Urban District Councils
Association of Assistant Mistresses
Association of Education Officers
Association of Head Teachers of Secondary Intermediate Schools
Association of Northern Ireland Education Committees
Association of Staffs in Colleges and Departments of Education
Association of Teachers of Domestic Science (Northern Ireland)
Association of University Teachers—Belfast Branch
Association of University Teachers—Londonderry Branch

Belfast College of Domestic Science
Belfast College of Technology—Board of Governors
Belfast College of Technology—Staff Association
Professor M. J. Boyd
Mr. W. A. B. Brown

Mr. J. H. Cathcart
Catholic Headmasters' Association
Catholic Secondary Teachers' Association
Civil Service Professional Officers' Association
Coleraine Borough Council, in conjunction with Coleraine Rural District Council, Portrush Urban District Council and Portstewart Urban District Council
Mr. I. A. Crawley
Professor B. Crossland
Professor B. Crossland, in conjunction with Professor J. C. West

Dr. A. G. Donaldson

Education Boards of the Church of Ireland, the Presbyterian Church in Ireland and the Methodist Church in Ireland
Dr. O. H. Edwards
Professor K. G. Emeleus
Professor T. Finnegan
Mr. W. V. Gillgan
Mr. P. Havard-Williams
Professor G. L. Huxley

Incorporated Association of Assistant Masters in Secondary Schools (Northern Ireland Branch)
Institute of Biology (Northern Ireland Branch)
Institutional Management Association (Northern Ireland Branch)
Irish National Teachers' Organisation, in conjunction with the Ulster Teachers' Union

Mr. D. Keith-Lucas

Londonderry City and County Borough Council

Magee University College, Londonderry—Board of Trustees
Magee University College, Londonderry—General Purposes Committee of the Faculty
Magee University College, Londonderry—Students' Representative Council
Messrs. W. H. McAlister and Partners
Mr. A. McDonald
Mr. H. M. D. McWilliam

National Federation of Business and Professional Women's Clubs of Great Britain and Northern Ireland (Belfast Club)
National Union of Students
Mr. H. Neeson
Northern Ireland Association of Schoolmasters
Northern Ireland Institute of Agricultural Science
Northern Union of Teachers in Technical Institutions

Professor J. Pemberton
Pharmaceutical Society of Northern Ireland
Mr. J. G. Pyper

Queen's University of Belfast
Queen's University of Belfast—Students' Representative Council
Queen's University of Belfast—Students' Representative Council (Science Committee)
Queen's University of Belfast—Teachers of Law

Royal Institute of Chemistry (Belfast and District Section)
Royal Institution of Chartered Surveyors (Northern Ireland Branch), in conjunction with the Chartered Auctioneers' and Estate Agents' Institute (Northern Ireland Branch)

St. Joseph's Training College
St. Mary's Training College
Mr. G. Scutcheon
Professor G. Seth
Stranmillis College Management Committee
Dr. M. B. Sutherland

Town Planning Institute (Irish Branch)

Ulster Headmasters' Association
Ulster Headmistresses' Association
University of Dublin, Trinity College

Dr. T. MacC. Walker
Dr. W. C. Warren
Mr. J. Wilson

INSTITUTIONS VISITED BY THE COMMITTEE

Belfast College of Art
Belfast College of Domestic Science
Belfast College of Technology
Loughry Agricultural College
Magee University College, Londonderry
Queen's University, Belfast
St. Joseph's Training College
St. Mary's Training College
Stranmillis College
Ulster College of Physical Education

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APPENDIX I

EXTRACTS FROM THE ROBBINS REPORT

1. Summary of the Report*

THE STRUCTURAL SURVEY

1. Our terms of reference instructed us to review the present pattern of higher education and to make suggestions for improving it. Our first task, therefore, after some preliminary discussion of principles, was to make a thorough survey of the existing situation in higher education in Great Britain and the historical trends of which it is the outcome. The results of this survey are set out in broad outline in Chapter III and later chapters; details will be found in Appendices One, Two, Three and Four. Whatever may be the fate of our specific recommendations, we hope that the results of this survey, the product of the skill of our technical advisers, will place the study of higher education in this country upon a new footing.

INTERNATIONAL COMPARISONS

2. Comparisons with conditions abroad reveal a situation of some complexity. In the United States of America, the Soviet Union and certain Commonwealth countries the provision of higher education greatly exceeds our own, after allowing for differences in population. But elsewhere the comparison is more ambiguous. Judged on grounds of opportunity offered for entry, our system is well down the list of the systems with which we have compared it. Judged on grounds of output of qualified persons, the comparison is not unfavourable: the United States of America and the Soviet Union apart, we stand very high on the list. But when we compare published plans for future development many other countries are far ahead of us. If, as we believe, a highly educated population is essential to meet competitive pressures in the modern world, a much greater effort is necessary if we are to hold our own.

THE FUTURE REQUIREMENT FOR PLACES

3. Our calculation of the future requirement for places in this country is based on an estimate of the numbers of young people who, on the present basis of student grants, will both be able to satisfy suitable entrance requirements for higher education and will wish to be admitted. Our investigations have suggested the existence of large reservoirs of untapped ability in the population, especially among girls: they have also shown a most significant increase in the number of young people coming forward year by year from the schools. We recognise that there can be no certainty how strongly this trend will continue up to 1980. With that qualification, and on the assumptions set out in Chapter VI and Appendix One, which allow for no relaxation in the degree of competition for entry, we have arrived at a requirement of about 560,000 places for full-time students in

*Robbins Report: Pages 268—276.

all higher education in 1980/81, and of about 390,000 places in 1973/74, compared with 216,000 in 1962/63.

HIGHER EDUCATION AND THE SCHOOLS

4. We are clear that the main remedy for the serious strains that are placed on the schools must lie in a great expansion of places in higher education. But there are a number of ways in which the processes of selection for higher education might be improved; and the arrangements for co-ordination between institutions of higher education and the schools should be strengthened. The special problems due to competition for places in institutions of outstanding eminence can only be solved by the improvement of other institutions.

EXISTING INSTITUTIONS AND COURSES

5. In order to decide how best to reach the target of 560,000 places it is necessary first to examine the provision made and the potentialities of existing institutions—the universities, the Training Colleges and Colleges of Education, the various institutions specialising in technology and the system of further education in general.

Universities

6. There is much to praise in the universities' central tradition of teaching and research and their provision of honours courses for studies in depth. But there are also two weaknesses: the small proportion of students in the universities of England and Wales taking first degrees of a broader nature, and the inadequate provision for postgraduate study and research.

7. Broader courses for the first degree are already available to a larger extent than is often realised. But these courses should be taken by a much greater number of students than at present, both on educational grounds and in the interest of their future careers. We should not recommend so large an expansion of universities as we do unless we were confident that it would be accompanied by a big increase in the number of students taking broader first degree courses.

8. A general lengthening of undergraduate courses to four years is undesirable, but a substantially higher proportion of students than at present should proceed to postgraduate work, with appropriate grants. The quality of the best research in this country will bear comparison with anything done elsewhere. But the growing complexity in the developing branches of knowledge in many cases requires a better foundation of fundamental studies than can be provided in the present first degree course; and it is in this respect that arrangements in some other countries are superior. We consequently recommend more provision both for research and, in particular, for advanced courses.

Colleges for the education and training of teachers

9. In the rapidly changing colleges for the education and training of teachers there are very different problems. In England and Wales many of the colleges are very small. Some of the students have the capacity to do work of degree standard; and although the colleges will continue to concentrate in the main on courses of the present kind, it is unjust that there should

be no facilities for obtaining a degree. But to confer degree-giving powers on all the existing colleges would be inappropriate because of the number involved, the variation in their sizes and the diversity of standards.

10. Differences of size are clearly capable of being remedied within various types of administrative structure; and plans already made for the future are designed to produce a big improvement. But under the present arrangements the problems of status and awards are more intractable. We recommend a radical change. The status of the colleges would best be assured and the problem of degrees satisfactorily solved by a closer association with the universities. Our recommendation is that, as a development from the Institutes of Education in which the colleges are at present associated with the universities, there should be set up University Schools of Education under whose auspices degrees would be available to suitable college students. The Schools of Education would receive finance through the grants committee system. Training Colleges, which should be renamed Colleges of Education, would be given independent governing bodies; they would become members of the Schools of Education and would receive finance from them.

11. We do not recommend a degree for students who complete the present course: to award both a professional qualification and a degree after three years would leave insufficient time for the depth of academic study that characterises a three-year degree course and would give the students concerned an unfair advantage over those university students who, after a three-year course for a degree, take another year's professional training before becoming teachers. We do, however, recommend that such students as—either on entry or after a preliminary period—are found to possess the capacity should be able, if they wish, to take a course of study that, in addition to giving professional training, leads after four years to a degree. For a minority of students transfer to a university may be appropriate.

12. For the universities these proposals involve an additional administrative burden at a time when preoccupation with their own expansion will be very great. But we are convinced that immense benefit will flow from closer links with the universities and that our proposals offer the best hope of raising the status and standards of the colleges and securing their full integration into the system of higher education of the future. For the local authorities, who have done so much to promote the development of the colleges, and who are so closely involved in the supply of teachers, these proposals involve parting with institutions to which many of their members have devoted long and energetic service. It is essential that, in ways that we specify in some detail, the local authorities should be associated with the Colleges and the Schools of Education.

13. In Scotland, too, we propose that degrees should be awarded to appropriate students in Colleges of Education who successfully complete a four-year course. Our proposals for changes in the government of the colleges are somewhat different from those in England and Wales, but their cumulative tendency is in the same direction.

Technological and further education

14. There is an outstanding need to attract a higher proportion of first class talent into courses in technology and to provide for the more effective

organisation of research and training at postgraduate level both inside and outside the universities.

15. We recommend the development of five Special Institutions for Scientific and Technological Education and Research, comparable in size and standing and in advanced research to the great technological institutions of the United States of America and the Continent. The bases for three such institutions already exist in the university sphere. We recommend that another, completely new, institution should be planned and that a fifth should be developed from one of the existing Colleges of Advanced Technology.

16. We recommend that in general the Colleges of Advanced Technology should be given charters as technological universities. They should be placed as soon as possible under the Grants Commission, which is one of our main recommendations for the future machinery of central government, and, as with the new universities, their progress towards complete autonomy should be supervised by academic advisory committees. Some of the Central Institutions in Scotland, if they do not forge links with universities, should move in the same direction.

17. We welcome the developments in management education taking place in various universities and colleges, but we recommend that there should be developed on a larger scale two postgraduate schools of management studies. In order to take advantage of the employment of part-time staff, both should be situated in large cities. In order to have immediately available the best specialists in the relevant technical disciplines, both should be associated with university institutions.

18. The Regional Colleges are to be regarded as at once providing the seedbed for some further growth of institutions to university status and as fostering, in addition to their characteristic work in science and technology, educational experiments in fields such as the teaching of modern languages and many aspects of business studies.

19. We hope that, for reasons of economy of staff and equipment, the work of university level will be concentrated as far as possible in selected centres. But we attach great value to the continued provision of facilities for work of university level over a wide area. The Area Colleges will develop in a variety of ways, and the opportunities open to students will be enhanced by our proposals that degrees should be available for appropriate courses.

20. Students taking advanced courses in the Regional and Area Colleges should have the same opportunity for degrees as those in university institutions. For this purpose, we recommend the creation of a Council for National Academic Awards to perform, for Britain as a whole and with more extended terms of reference, functions similar to those performed so well in England and Wales by the present National Council for Technological Awards. In particular, the new Council would award degrees.

THE FUTURE PATTERN OF HIGHER EDUCATION

21. We have carefully considered whether any new categories of institution should be introduced. We conclude that in general this is not necessary:

the present range of institutions, if imaginatively developed, affords the necessary scope for new experiments and opportunities.

22. In suggesting how the 560,000 students of 1980 should be distributed between different types of institutions, one of our main concerns has been to reduce the pressure on the schools caused by the shortage of places in the universities. Some of this pressure may well be reduced by the extension of facilities for obtaining degrees in other institutions. But we doubt whether it will be reduced sufficiently. We therefore recommend that the universities' share of entrants to higher education should be increased from 55 per cent. in 1962 to 60 per cent. in 1980.

23. If this is to happen, the necessary first steps must be taken immediately. Of the 350,000 university places needed by 1980, nearly 300,000 might in favourable conditions be provided by the development of existing institutions, which at present contain 130,000 students. In modern conditions it is desirable that universities should be large enough to have an adequate division of labour within departments and to make economical use of buildings and equipment.

24. It may be that most of the university places that are required in the next ten years can be provided by such developments. But if no further steps are taken, the situation will thereafter be irretrievable, for universities take long to establish. We therefore recommend the immediate foundation of six new universities, of which at least one should be in Scotland. Another would be the new Special Institution for Scientific and Technological Education and Research. Such new foundations might provide 30,000 places by 1980. The remaining places should be provided by the advancement to university status of some ten Regional Colleges and Colleges of Education. If the scale of these recommendations should seem over-ambitious, we would remind the sceptics that demographic projections beyond 1980 suggest no lessening of the rate at which the demand for places will grow.

25. Except for management studies and languages, we have not made recommendations about the content of courses in particular subjects, holding this to be a matter best worked out in detail within and among the various institutions concerned. But we consider that there is scope for an increase in the proportion of students in higher education engaged in studying science—this will be largely achieved by current plans of development—and that there is scope for considerable increase in the proportion and an improvement in the quality of those taking technological courses of various kinds.

26. As we have indicated, much of the expansion contemplated will take place by the growth of existing institutions. But, for the remainder that demands new foundations, having regard to the decisions of the last few years, we wish to emphasise the claims of the great centres of population, both because of the advantages that institutions can draw from such an environment and because of the advantages they can confer. As a result of a recent decision, which we endorsed, there will soon be two universities in Glasgow; and there is room for more than one in some other large cities.

27. We emphasise the importance of expanding facilities for the education of adults, such as refresher courses for graduates in industry and courses for married women wishing to start or resume their careers after bringing up a family, as well as more general courses for those wishing to enlarge their intellectual and aesthetic horizons. Not all of these activities will be undertaken by full-time study. There will be a continuing role for the voluntary and statutory organisations interested in courses of part-time higher education. We hope that, as in the past, the universities will maintain an active interest in the provision of these courses and that the fruitful co-operation of the agencies in this field will continue.

STAFFING, TEACHERS AND STUDENTS

28. There is no reason to suppose that in the long term the expansion of higher education need be held up by lack of suitable teachers. But in the short term there will be difficulties; and in any event attention will have to be given to the economical use of manpower and the adoption of the most suitable methods of teaching. We repudiate any suggestion that the teaching problem should be solved at the expense of research, but we think that teaching time might well be used more effectively; and we urge that increased attention should be given to the problems of introducing young men and women from families with scanty educational background to the atmosphere of higher education. We also recommend the provision of more extensive residential facilities for students.

THE COST OF HIGHER EDUCATION AND ITS FINANCE

29. With an increase from 8 to 17 per cent. in the proportion of the relevant age group for whom we recommend that full-time higher education should be provided, the cost of higher education will be substantially increased both absolutely and in relation to the gross national product. While we are unable to put a figure on the return on this outlay considered as an investment, we are clear that it will be remunerative, both in its absolute effects on the general productivity and adaptability of the internal working of the economy and in helping to maintain our competitive position in the world at large.

30. On the assumption of a constant value of money and an average increase in productivity of 3¼ per cent. per annum, our proposals would lead to an increase in public expenditure on full-time higher education from £206 million in 1962/63 to £742 million in 1980/81; the proportion of gross national product devoted to this purpose would rise from 0·8 to 1·6 per cent. A substantial fraction of the rise in expenditure could be carried without increased relative burden by the increase in productivity we have assumed; and although there would remain a proportion not so carried, such expenditure would be well justified. On any broad appraisal of the return both in productivity and increased capacity for enjoyment, many items at present covered by public expenditure have less claim on our resources than this.

31. We have given considerable attention to the suggestion that part of the cost should be met by loans to students rather than outright grants covering maintenance and fees. We dismiss the belief that this would substantially alter the ultimate burden in terms of calls on real resources of manpower and equipment. But we recognise considerable force in arguments, based

upon justice, for a partial charge for what otherwise might well be described as a subsidy from those sections of the community who do not get the returns which normally accompany superior educational qualifications. Nevertheless the introduction of a system of loans at a time when substantial proportions of the population were only beginning to acquire the habit of higher education might deter parents, particularly those with daughters, from persuading, encouraging or allowing their children to proceed to higher education. Hence, although as time goes on more attention may well be paid to this method of finance, we do not recommend its adoption here and now.

32. We have also considered the contribution of fees to the income of institutions, which in recent years (mainly because of the decline in the value of money) has become a much smaller proportion of their total income. At present most fees are wholly or in part met from rates or taxes so that, apart from overseas students and the relatively few home students whose parents pay fees, the distribution between fee income and subsidy is a matter of secondary importance to public finance. But we have been impressed by the argument that there is a certain safeguard for institutions if all their income does not come immediately from one administrative source; and for this reason we recommend an increase in fees so that they will cover at least 20 per cent. of the expenditure of institutions. An appropriate increase would be required in the general grant to local authorities.

THE INTERNAL GOVERNMENT OF INSTITUTIONS OF HIGHER EDUCATION

33. In discussing the government of individual autonomous institutions, we defend the principle of lay majorities on ultimate governing bodies but emphasise that there should be strong academic representation and that such bodies should not interfere with strictly academic business. We argue that there should be adequate representation of non-professorial members of the teaching body on all internal organs of government not concerned with matters of appointment and promotion. We outline a parallel code for other institutions. We draw attention to the importance of the position of vice-chancellors, especially in a period of expansion, and emphasise the need at once to relieve them of superfluous duties and to make adequate provision for appropriate methods of appointment. We discuss the problems of federalism among academic institutions, and recommend both the repeal of the Universities (Scotland) Act, 1889, and independent enquiries into the respective problems of the Universities of Wales, London, Oxford and Cambridge as they affect the national interest, unless they solve these problems for themselves. We also propose a reconstruction of the present Committee of Vice-Chancellors and Principals, aimed at making it a body capable of representing an enlarged system of autonomous institutions in discussions with the Grants Commission, the schools and other interests.

ACADEMIC FREEDOM AND ITS SCOPE

34. The problems of reconciling in modern conditions the claims of autonomous institutions to academic freedom and the need for adequate co-ordination of a system substantially supported from public funds are the subject of a separate chapter. We set out, both in regard to individuals and institutions, the ingredients of academic freedom that, in our view, are essential to a healthy system of higher education. At the same time we

indicate the spheres in which consideration of national needs and an economical use of public resources make it necessary to limit completely free action and to provide some machinery of co-ordination. Recognition of this need has made us all the more aware of its dangers. We therefore lay great emphasis on the principle of control through general block grants administered by an independent committee or commission appointed for its expert qualifications, not for its political affiliations. We regard this principle, exemplified in the present system by the University Grants Committee, as one of the significant administrative inventions of modern times: and we attach great importance to its retention and development in the machinery of government of the future.

THE FUNCTIONS OF THE GRANTS COMMISSION

35. We therefore recommend that oversight of the entire body of autonomous institutions, the universities and the Colleges of Advanced Technology, and with the universities the associated Schools of Education, together with the Scottish Colleges of Education, should be placed in the hands of a Grants Commission. This body, which would be the lineal successor of the University Grants Committee, would have the duty of advising the government on the magnitude of the grants to be made to this sector of higher education and of distributing grants and assessing the correct allocations to the different institutions concerned. The main body of the Commission would be constituted on the same principles as the University Grants Committee, with a suitably augmented staff. Much of its detailed work would, however, be conducted by a structure of committees, whose membership need not be restricted to members of the main Commission. In this way we believe that the intimate contacts characteristic of the operations of the University Grants Committee will be retained, although the scope of the Commission will be considerably wider.

MINISTERIAL RESPONSIBILITY

36. The problem of ministerial responsibility for the Grants Commission presents many difficulties. It would be inappropriate for the Chancellor of the Exchequer to be responsible for the Grants Commission, whose scope will be much wider than that of the University Grants Committee. Nor would it be suitable for it to be the responsibility of a minister without portfolio. We have considered therefore with great care whether the whole education service should become the responsibility of a Secretary of State for Education, and we do not wish to minimise the strength of the case that can be made for this. But in the end we have come to the conclusion that for autonomous institutions, involved as they are not only in teaching but also in research and the advancement of knowledge, the more appropriate conjunction for the Grants Commission would be with the Research Councils, the Arts Council and other bodies that have the status of advisory and distributing intermediaries. We recommend therefore the creation of a new ministry with the responsibility for all such intermediaries, with the title of Ministry of Arts and Science. For Scottish institutions, we recommend a special relationship between the new minister and the Secretary of State for Scotland.

THE MACHINERY OF CO-ORDINATION

37. With such a structure of ministerial responsibility—the new minister responsible for the Grants Commission and the institutions dependent on it, and the Minister of Education and the Secretary of State for Scotland remaining responsible for the other institutions of higher education and the schools –there will be a need for co-ordination. The prime responsibility for this will rest with the ministers and their departments, advised on specific questions like the supply of teachers by national advisory bodies. But we also recommend the establishment of a small Consultative Council, composed of people representative of various educational and other interests, to which ministers can remit questions concerned with higher education as a whole, as well as its relations with the schools.

THE CRISIS IMMEDIATELY AHEAD

38. The Report concludes by drawing attention to an educational emergency now confronting higher education because of the arrival at the ages of seventeen and eighteen of the very large numbers of children born immediately after the second world war. In our judgment, this is an emergency of the same importance as the emergency produced by demobilisation after the last war and demanding the same type of extraordinary measures to meet it. If the needs of this situation are not adequately met by immediate government action, many of our plans for long-term expansion will be seriously endangered.

2. Aims and Principles*

THE AIMS OF HIGHER EDUCATION

22. To begin with aims and objectives—what purposes, what general social ends should be served by higher education?

23. The question is not a new one; and the answers have been many and various. But of one thing we may be reasonably certain: no simple formula, no answer in terms of any single end, will suffice. There is no single aim which, if pursued to the exclusion of all others, would not leave out essential elements. Eclecticism in this sphere is not something to be despised: it is imposed by the circumstances of the case. To do justice to the complexity of things, it is necessary to acknowledge a plurality of aims.

24. In our submission there are at least four objectives essential to any properly balanced system.

25. We begin with instruction in skills suitable to play a part in the general division of labour. We put this first, not because we regard it as the most important, but because we think that it is sometimes ignored or undervalued. Confucius said in the Analects that it was not easy to find a man who had studied for three years without aiming at pay. We deceive ourselves if we claim that more than a small fraction of students in institutions of higher education would be where they are if there were no significance for their future careers in what they hear and read; and it is a

* Robbins Report: Paragraphs 22–40.

mistake to suppose that there is anything discreditable in this. Certainly this was not the attitude of the past: the ancient universities of Europe were founded to promote the training of the clergy, doctors and lawyers; and though at times there may have been many who attended for the pursuit of pure knowledge or of pleasure, they must surely have been a minority. And it must be recognised that in our own times, progress—and particularly the maintenance of a competitive position—depends to a much greater extent than ever before on skills demanding special training. A good general education, valuable though it may be, is frequently less than we need to solve many of our most pressing problems.

26. But, secondly, while emphasising that there is no betrayal of values when institutions of higher education teach what will be of some practical use, we must postulate that what is taught should be taught in such a way as to promote the general powers of the mind. The aim should be to produce not mere specialists but rather cultivated men and women. And it is the distinguishing characteristic of a healthy higher education that, even where it is concerned with practical techniques, it imparts them on a plane of generality that makes possible their application to many problems —to find the one in the many, the general characteristic in the collection of particulars. It is this that the world of affairs demands of the world of learning. And it is this, and not conformity with traditional categories, that furnishes the criterion of what institutions of higher education may properly teach.

27. Thirdly, we must name the advancement of learning. There are controversial issues here concerning the balance between teaching and research in the various institutions of higher education and the distribution of research between these institutions and other bodies. We shall deal with these later. But the search for truth is an essential function of institutions of higher education and the process of education is itself most vital when it partakes of the nature of discovery. It would be untrue to suggest that the advancement of knowledge has been or ever will be wholly dependent on universities and other institutions of higher education. But the world, not higher education alone, will suffer if ever they cease to regard it as one of their main functions.

28. Finally there is a function that is more difficult to describe concisely, but that is none the less fundamental: the transmission of a common culture and common standards of citizenship. By this we do not mean the forcing of all individuality into a common mould: that would be the negation of higher education as we conceive it. But we believe that it is a proper function of higher education, as of education in schools, to provide in partnership with the family that background of culture and social habit upon which a healthy society depends. This function, important at all times, is perhaps especially important in an age that has set for itself the ideal of equality of opportunity. It is not merely by providing places for students from all classes that this ideal will be achieved, but also by providing, in the atmosphere of the institutions in which the students live and work, influences that in some measure compensate for any inequalities of home background. These influences are not limited to the student population. Universities and colleges have an important role to

play in the general cultural life of the communities in which they are situated.

29. Institutions of higher education vary both in their functions and in the way in which they discharge them. The vocational emphasis will be more apparent in some than in others. The advancement of learning will be more prominent at the postgraduate than at the undergraduate stage. The extent of participation in the life and culture of the community will depend upon local circumstances. Our contention is that, although the extent to which each principle is realised in the various types of institution will vary, yet, ideally, there is room for at least a speck of each in all. The system as a whole must be judged deficient unless it provides adequately for all of them.

GUIDING PRINCIPLES

30. We conclude this chapter by indicating in broad outline some of the main principles that we have taken as guides in conducting our enquiries and in framing our recommendations.

Numbers and eligibility

31. Throughout our Report we have assumed as an axiom that courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so. What type of education they should get and in what kind of institution are questions we consider later on; and the criterion by which capacity is to be judged is clearly a question on which there may be a variety of opinions. But on the general principle as we have stated it we hope there will be little dispute.

32. If challenged, however, we would vindicate it on two grounds. First, conceiving education as a means, we do not believe that modern societies can achieve their aims of economic growth and higher cultural standards without making the most of the talents of their citizens. This is obviously necessary if we are to compete with other highly developed countries in an era of rapid technological and social advance. But, even if there were not the spur of international standards, it would still be true that to realise the aspirations of a modern community as regards both wealth and culture a fully educated population is necessary.

33. But beyond that, education ministers intimately to ultimate ends, in developing man's capacity to understand, to contemplate and to create. And it is a characteristic of the aspirations of this age to feel that, where there is capacity to pursue such activities, there that capacity should be fostered. The good society desires equality of opportunity for its citizens to become not merely good producers but also good men and women.

The recognition of individual achievement

34. Secondly we have assumed throughout the principle of equal academic awards for equal performance. We think that in any properly co-ordinated system of higher education the academic grading of individuals should depend upon their academic accomplishment rather than upon the status of the institution in which they have studied. We are well aware that there are limits to the realisation of this principle, and that the status accorded by the world to a degree from an institution of long standing and established

reputation may well be higher than the status of a degree earned in an examination of comparable severity in an institution of more recent foundation. This is in the nature of things. But it is no argument for retaining formal differences in terminology that do not reflect real differences in attainment.

The status of institutions

35. We wish to see the removal of any designations or limitations that cause differentiation between institutions that are performing similar functions. Distinctions based on adventitious grounds, whether historical or social, are wholly alien to the spirit that should inform higher education.

36. It must, however, be recognised that within the wide field of higher education there is a need for a variety of institutions whose functions differ. There must, therefore, be distinctions between institutions which, though they are all engaged in higher education, have differing functions and a different emphasis. Our concern is that such distinctions should be genuine, based on the nature of the work done and the organisation appropriate to it, and that nobody should think that in recognising the existence of such distinctions by function we are implying that one kind of institution is more important and valuable to the nation than another. All are needed to provide appropriate educational opportunities and to supply national needs.

37. Furthermore it must be recognised that within these various categories it is inevitable that some institutions will be more eminent than others. It is in the nature of things that talent should attract talent and that where famous intellectual exploits take place, there should develop some concentration of staff and students especially interested in the subjects concerned. Moreover, such concentrations are not only probable but also desirable. A mutual stimulation of speculation and of scholarly standards is a precondition of much that is most valuable in higher education. It is therefore unavoidable that in this respect there should be some differences in achievement and reputation as between institutions. It is also unavoidable that because of the varying expense of different kinds of education and research different institutions should receive different subventions. What is important is that what differences there are should rest clearly on differences of function on the one hand, and on acknowledged excellence in the discharge of functions on the other. There should be no freezing of institutions into established hierarchies; on the contrary there should be recognition and encouragement of excellence wherever it exists and wherever it appears.

Opportunities for transfer

38. If it is true that certain differences of level and function must be expected to persist among institutions, it is also true that such a structure can only be morally acceptable if there are opportunities for the transfer of a student from one institution to another when this is appropriate to his or her intellectual attainments and educational needs. We attach great importance to this.

Organisation

39. The organisation of higher education must allow for free development of institutions. Existing institutions must be free to experiment without

predetermined limitations, except those necessary to safeguard their essential functions; and there must be freedom to experiment with new types of institution if experience shows the desirability of such experiments. Our fundamental postulate of the necessity for system and order is not to be in any way construed as conflicting with this. We ask indeed that there should be co-ordination, some principles of policy commonly accepted, some organisation providing for rational allocation of scarce resources. But we should hold it to be the very bankruptcy of constitutional invention if such conditions were thought to be incompatible with that scope for individual and institutional initiative that British tradition has always held to be one of the main essentials of intellectual and spiritual health.

The maintenance of standards

40. Finally, we must demand of a system that it produces as much high excellence as possible. It must therefore be so devised that it safeguards standards. We began our discussion of principles by emphasising the claims of numbers. It is only fitting, therefore, that we should close it by emphasising the claims of achievement and quality. The two ends are not incompatible. Equality of opportunity for all need not mean imposing limitations on some. To limit the progress of the best is inevitably to lower the standard of the average. A sound educational system should afford full scope for all types of talent at all levels. In the past our universities have tended to set the tone and the pace for other institutions and it is probable that in the future they will have a similar role to play. We are proud to think that they have proved themselves well capable of comparison over the years with those of other countries in fostering intellectual excellence. We hope that this reputation will be sustained and that, while they broaden the basis of education for first degrees, they will also achieve even higher standards in the education of those who show themselves capable of advancing beyond this stage.

3. Government of institutions of further education*

GOVERNING BODIES

679. Many institutions, notably the Area Colleges and many of the Regional Colleges, will continue to be administered by local authorities. We recommend that each of these colleges should have a properly constituted governing body with academic representation and an outside membership selected by virtue of interest in and suitability for the work.† In making appointments to such bodies regard should be paid to the continuity of the educational welfare of the college rather than to political, professional, or other extraneous considerations.

FINANCE

680. We recommend that finance should be given to governing bodies under the broadest possible categories of expenditure. Detailed earmarking and control of items of expenditure by an outside body are unnecessary and wasteful not only of time but of money. Economy is more readily achieved

* Robbins Report: Paragraphs 679–682.

† This may, for example, include representatives of universities and of appropriate professions.

through prudent management and careful buying by those responsible than by a rigidly detailed allocation of funds for particular purposes. We are advised that there is no legal impediment to prevent a local authority from provisionally agreeing expenditure several years ahead. The agreement must of course be subject to the annual voting of funds, but this is equally true of government grants to universities. We recommend that local authorities should agree budgets for the major colleges they administer up to three years ahead. In this way the colleges will be able to plan ahead on a surer basis than they can now.

ACADEMIC APPOINTMENTS

681. In making academic appointments, different types of appointing body are appropriate for different purposes. The headship of an institution is clearly a matter for the governing body, but a governing body on which academic interests are well represented. The filling of senior posts is chiefly a matter for the head of the institution and his senior colleagues, but it is a function in which lay participation is valuable. Junior appointments are best left to appropriate committees of academic staff. It is always possible for lay members on the governing body to question the wisdom of particular appointments, but it should be understood that this should only be done when there are solid reasons for doing so.

ACADEMIC ORGANISATION

682. We recommend that the principal and senior academic staff should control the admission of students; and that there should exist a system of boards of studies charged with making detailed recommendations for syllabuses and keeping the development of the subjects concerned under continuous review.

4. List of recommendations*

(Each to be read in the light of the fuller explanation given in the paragraphs cited)

THE FUTURE DEMAND FOR HIGHER EDUCATION AND THE PLACES NEEDED TO MEET IT (CHAPTER VI)

1. Compared with the 216,000 students in full-time higher education in Great Britain in 1962/63, places should be available for about 390,000 in 1973/74 and, on present estimates, for about 560,000 in 1980/81. (Para. 179.)

HIGHER EDUCATION AND THE SCHOOLS (CHAPTER VII)

The special influence of certain universities

2. In order to reduce the relative attraction of Oxford and Cambridge, specially generous capital grants should be made for the renewal and development of other universities. (Para. 216.)

3. There should be closer relations between the men's colleges at Oxford and Cambridge and the schools maintained by local education authorities. (Para. 221.)

* Robbins Report: Pages 277–291.

Selection for higher education

4. Institutions of higher education and the schools should consider how better information can be made available to young people and their parents about the courses available in higher education. (Para. 225.)

5. The Scottish universities should establish common faculty requirements. (Para. 226.)

6. The work of the Universities Central Council on Admissions should cover applicants to all universities and the Colleges of Advanced Technology. (Para. 227.)

7. Institutions of higher education and the schools should jointly consider how school records and recommendations can best contribute to the process of selection. Institutions of higher education should send back to the schools an account of the progress made by their pupils. (Para. 229.)

8. There should be research by an independent body into the extent to which aptitude tests might supplement other features of the selection process. (Para. 232.)

Co-operation between higher education and the schools

9. The Secondary School Examinations Council, or its successor, and the Committee of Vice-Chancellors and Principals should devise means whereby they can discuss problems affecting the transition from school to higher education. (Para. 236.) Associations of teachers should be consulted and recommendations published from time to time. (Para. 237.)

10. There should be more contacts between individual schools and local education authorities on the one hand and institutions of higher education on the other. (Para. 238.)

11. Teachers in institutions of higher education and in the schools should collaborate in the revision of school syllabuses and textbooks. (Para. 239.)

12. Curriculum research and development and the training of school teachers in new methods should be fostered. (Para. 240.)

UNIVERSITY COURSES (CHAPTER VIII)

First degree courses: England and Wales

13. The syllabuses of first degree courses should be regularly reviewed to avoid overloading. (Para. 255.)

14. A higher proportion of students should receive a broader education for their first degrees. (Para. 262.)

15. There should be more courses involving the study of more than one main subject. (Para. 264.)

16. Arrangements should wherever possible allow a student to postpone his choice of special subject until the end of the first year or to change his course of study then, if necessary with an extension of grant. (Para. 271.)

17. Students who do not live up to their early promise should be transferred, after their first or second year, to less exacting courses. (Para. 272.)

First degree courses: Scotland

18. The broad general first degree course in Scotland should be retained. (Para. 277.)

19. More individual attention should be given to Ordinary degree students. (Para. 277.)

Length of first degree courses

20. First degree courses should not in general be lengthened. (Para. 281.)

Postgraduate studies

21. Postgraduate work should normally include an element of systematic teaching. (Para. 297.)

22. The emphasis on work for higher degrees and diplomas should in some cases be on advanced study rather than on the preparation of a thesis. (Para. 299.)

23. The proportion of graduates proceeding to postgraduate work should be increased from 20 per cent. to 30 per cent. by 1980. (Para. 301.)

24. More awards should be available for postgraduate study, particularly in the social sciences and the humanities. (Para. 304.)

25. There should be better arrangements for the supervision of postgraduate students. (Para. 305.)

26. More graduates who wish to go on to postgraduate work should be encouraged to do so at a university other than the one at which they took their first degree. (Para. 306.)

A common policy

27. The universities should consult together about courses of study at undergraduate and postgraduate level to ensure that arrangements complement each other and that there is a measure of uniformity in standards and nomenclature of degrees. (Para. 307.)

COLLEGES FOR THE EDUCATION AND TRAINING OF TEACHERS (CHAPTER IX)

England and Wales

28. The average size of Training Colleges should be increased and in the long run a college with less than 750 students should be the exception. (Para. 319.)

29. The three-year concurrent course leading to a professional qualification should continue to be available. (Para. 329.) Four-year courses leading both to a degree and to a professional qualification should be provided in Training Colleges for suitable students. (Para. 333.)

30. By the 1970's there should be a big increase in the number of students taking four-year courses, and provision should be made for this in the further expansion of the colleges. (Para. 339.)

31. In suitable cases students should be able to transfer after a period at a college to a university to take a degree there in the subject of their choice. (Para. 338.)

32. For those who wish to start teaching on completion of professional training there should be opportunities at a later stage to complete their degree qualifications by means of part-time study. (Para. 340.)

33. A B.Ed. degree of the university with which the college will be linked (see 35 below) should be awarded at the conclusion of the four-year course. (Para. 341.)

34. The Training Colleges should be renamed Colleges of Education. (Para. 351.)

35. The colleges in each university's Institute of Education and the University Department of Education should be formed into a School of Education. (Para. 351.)

36. On the academic side, each School should be responsible to the university senate for the degrees awarded to students in Colleges of Education. Each School of Education should have its own academic board and boards of studies. (Para. 352.)

37. Local education authorities should be appropriately represented on the governing bodies both of the colleges for which they are at present responsible and of the Schools of Education. (Para. 354.)

38. The Minister of Education should appoint assessors to the governing bodies of Schools of Education. (Para. 354.)

39. The colleges should have independent governing bodies and should be financed by earmarked grants made by the Grants Commission (see 151 below) through universities to the Schools of Education. (Para. 355.)

40. The voluntary colleges should be included in Schools of Education, subject to some modification of the general financial arrangements. (Para. 356.)

Scotland

41. In the Colleges of Education, there should be four-year courses for suitable students leading to a degree awarded by universities as well as to a professional qualification. (Para. 363.)

42. The teaching staff should be represented on the governing bodies of the colleges. (Para. 367.)

43. The colleges should set up boards of studies for each of the subjects in which degree level work is established. (Para. 370.)

44. Universities should be represented on the boards of studies. (Para. 370.)

45. University graduates in arts and science who are training as teachers should normally take the course for the university Diploma in Education. (Para. 372.)

46. This course should be the responsibility of a joint board of studies from the university and the College of Education. (Para. 372.)

47. The colleges should be financed by grants from the Grants Commission. (Para. 373.)

INSTITUTIONS FOR TECHNOLOGICAL EDUCATION AND THE SYSTEM OF FURTHER EDUCATION (CHAPTER X)

Institutions of technology at university level

48. The volume of postgraduate work in science and technology should be considerably increased and, in particular, this should allow for the growth of postgraduate courses of study. (Para. 380.)

49. A major effort should be made to encourage an increase in technological as well as scientific research. (Para. 381.)

50. Larger institutions and faculties should be built up to enable departments to use resources to the best advantage. (Para. 382.)

Special Institutions for Scientific and Technological Education and Research

51. A number of university institutions devoted to high level teaching and research, chiefly in science and technology, should be selected for rapid development. (Para. 383.) They should be given financial support similar to that given to Imperial College in the last decade. (Para. 387.)

52. They should each contain about 3,500 to 4,500 students, of whom half should be postgraduate students. There should be good staffing ratios and adequate provision of equipment and technical assistance. (Para. 384.)

53. Imperial College and the Colleges of Science and Technology at Manchester and Glasgow should provide the nuclei of three such institutions. (Para. 386.)

54. Another completely new institution should be planned immediately and a fifth should be developed from one of the existing Colleges of Advanced Technology. (Para. 386.)

55. The two new Special Institutions should be constitutionally independent. (Para. 388.)

Colleges of Advanced Technology

56. These colleges should in general be designated as technological universities, with power to award both first and higher degrees. (Paras. 392, 393.)

57. Responsibility for their finance should be transferred to the Grants Commission. (Para. 395.)

58. As with the new universities, an Academic Advisory Committee attached to each college should supervise courses and examinations until the college is ready for complete independence. (Para. 395.)

59. Their emphasis should be on teaching and research in technology and science, but the development of other subjects should be encouraged. (Paras. 396, 397.)

60. They should each ultimately contain between 3,000 and 5,000 students. (Para. 397.)

The Scottish Central Institutions

61. The most advanced Central Institutions should be given university status either by close association with an appropriate university or on the lines proposed for the Colleges of Advanced Technology. (Para. 399.)

62. The others should either have some form of association with the Royal College of Science and Technology in its new role as a university or should follow the arrangements proposed for Regional Colleges in England and Wales (see 67 69 below). Students should be able to receive the same kind of awards as their counterparts in England and Wales. (Paras. 400, 401.)

Links with government research establishments and with industry

63. The links between university institutions and government research establishments and industry should be strengthened by freer movement of staff and more joint arrangements for research and the supervision of research ; and the institutions should invite more part-time teaching assistance from the research establishments and from industry. (Para. 404.)

Business studies and education for management

64. Courses in subjects relevant to business problems may properly be taken at the undergraduate stage, but education for management as such should be a subject for postgraduate study, often after a period of experience. (Paras. 407, 408.)

65. Two postgraduate business schools, providing courses in management, should be developed, each in association with a university or a Special Institution and close to a large business centre. (Paras. 410–412.)

Modern languages

66. Some technological universities and Regional Colleges should provide courses in the practical use of languages. (Para. 414.)

Regional Colleges

67. The Regional Colleges should develop a wider range of advanced full-time courses. (Para. 418.)

68. A number of the colleges should continue to be maintained by local education authorities. (Para. 419.)

69. There should be opportunities for others, in some cases after federation with another technical college or a Training College, to become in due course parts of universities or universities in their own right. (Para. 419.)

Area Colleges and Colleges of Commerce

70. These colleges should continue to be maintained by local education authorities. (Para. 422.)

71. They should continue to provide a variety of courses in close association with local industry. (Para. 422.)

72. Advanced full-time courses should in the main be concentrated in those colleges likely to be selected for Regional College status. (Para. 423.)

73. There should be arrangements for the transfer, with appropriate financial assistance where necessary, of suitable students from Local Colleges to advanced courses in Regional and Area Colleges ; and, at the postgraduate stage, to universities and technological universities. (Para. 424.)

Academic awards

74. The National Council for Technological Awards should be replaced by a Council for National Academic Awards, covering the whole of Great Britain. It might be established under royal charter. (Para. 433.)

75. The Council should be made up of representatives of the universities (including technological universities), the Regional and Area Colleges and industry. (Para. 433.)

76. The Council should award honours and pass degrees to students in Regional and Area Colleges and their Scottish counterparts taking appropriate courses in science, technology and other subjects. (Para. 433.)

77. Courses should only be approved in colleges where there is a nucleus of full-time work. (Para. 434.)

78. If a system of higher degrees is needed, it should be confined to colleges developing a large volume of postgraduate work. (Para. 432.)

79. Legislation should be introduced to prevent unauthorised bodies and persons from awarding degrees and to make action possible against those who falsely claim qualifications. (Para. 435.)

Colleges and Schools of Art

80. The Royal College of Art should be treated administratively in the same way as Colleges of Advanced Technology and brought within the ambit of the Grants Commission. (Para. 436.)

81. Other colleges in England and Wales providing advanced courses in art should develop on the lines of Regional and Area Colleges. (Para. 436.)

82. The Diploma in Art and Design and the Scottish diplomas, rather than degrees, should in general be the awards open to advanced students in art. (Para. 438.)

Other institutions

83. The College of Aeronautics should be brought within the ambit of the Grants Commission. (Para. 440.) If it retains its present size and wishes its students to be eligible for higher degrees, it should create a link with a university. (Para. 441.)

84. Degrees should be available to students at the National and Agricultural Colleges as and when they offer degree level courses. (Paras. 442, 443.)

THE FUTURE PATTERN OF HIGHER EDUCATION (CHAPTER XI)

85. In future detailed planning should be made for a period extending ten years ahead. (Para. 457.)

86. Those responsible for policy should also be provided with estimates covering the following decade. (Para. 457.)

87. Enough places should be provided to allow the proportion of qualified school leavers entering universities to be increased as soon as practicable. (Para. 465.) It should never be allowed to fall below its present level. (Para. 491.)

88. University places should provide about 350,000 of the total of 560,000 places needed in 1980/81. (Para. 465.)

89. Many existing universities should be expanded to 8,000 or 10,000 places each. (Para. 471.) Local authorities should recognise well in advance that universities need ample sites for expansion. (Para. 473.)

90. Six new universities should be established at once so that they can provide about 30,000 places by 1980/81. (Para. 476.)

91. A further 20,000 university places should be provided by giving university status to some ten Regional Colleges, Central Institutions and Colleges of Education. (Para. 477.)

92. At least one of the new universities should be in Scotland. (Para. 478.)

93. There should be about 145,000 places for intending teachers in Colleges of Education in 1980/81. (Para. 483.) Plans for Colleges of Education should also increasingly provide for students who intend to take up careers other than teaching. (Para. 485.)

94. There should be about 65,000 places for full-time advanced students in further education in 1980/81. (Para. 486.)

95. Most of the expansion in Colleges of Education and further education should be achieved in existing institutions. (Para. 488.)

96. Where new foundations are needed there should be experiments in which further education and the education and training of teachers are combined in a single institution. (Para. 489.)

The next ten years

97. Of the 392,000 places needed in 1973/74, 219,000 should be in universities, 122,000 in Colleges of Education and 51,000 in further education. (Para. 494.)

The location of universities

98. The majority of new universities or institutions chosen for the granting of university status should be in or near large centres of population. (Para. 502.)

Areas of study

99. Provision should be made for a growth in the proportion of students taking science and, particularly, technology. (Para. 507.)

100. This can, and should, be achieved without reducing the proportion taking arts subjects. (Para. 508.)

The education of adults

101. Those who wish to embark on or resume higher education later in life should be encouraged to do so. (Paras. 513, 514.)

102. Adequate grants should be made to enable women to take refresher courses or initial courses of higher education. (Para. 515.)

103. The Ministry of Education and the Scottish Education Department should consider giving capital grants to the residential colleges of adult education and grants to suitable students. (Para. 517.)

104. The work for adult education undertaken by the local authorities, the University Extra-Mural Departments and the Workers' Educational Association should be encouraged. (Para. 518.)

STAFFING (CHAPTER XII)

Student/staff ratios

105. The present student/staff ratios in university institutions particularly concerned with research and postgraduate training should be maintained and, when practicable, improved. (Para. 527.)

106. Student/staff ratios in higher education as a whole should not be allowed to deteriorate. (Para. 532.)

Conditions of service

107. Conditions of service for teachers in higher education should be such as to attract recruits of the necessary calibre into all sectors. (Para. 540.)

108. Any disparity between the incomes and prospects of teachers doing similar work in different universities should be removed. (Para. 542.)

109. The structure of university staffing as a whole should be reviewed, with special reference to the effect on promotion prospects of the number of professorial posts and the ratio of junior to senior non-professorial posts. (Para. 544.)

110. There should be good facilities and enough funds for research, generous allowances of sabbatical leave and adequate secretarial and technical help. (Para. 545.)

111. Large institutions of higher education should establish and publicise schemes for training technical assistants and should be given the necessary funds to enable them to do so. (Para. 547.)

112. Arrangements for superannuation payments should be such as to facilitate the movement of staff between higher education, government and other research establishments and industry. (Para. 548.)

Part-time teachers

113. There should be a more widespread use of part-time staff in higher education, though they should not predominate in any faculty or department. (Para. 549.)

114. In some universities more use should be made of postgraduate students for informal teaching and the conduct of discussion groups. (Para. 550.)

TEACHERS AND STUDENTS (CHAPTER XIII)

Teaching and research

115. Because teaching and research are complementary, research should not be removed from universities and concentrated in research institutes. (Para. 554.)

116. The balance between teaching and research in the universities should in general be maintained. (Para. 558.)

117. In appointing and promoting staff more weight than at present should be given to qualities other than distinction in research, and in particular to ability as a teacher. (Para. 561.)

118. Any distinctions in status and salary scale between readers and senior lecturers should be removed. (Para. 562.)

Teaching methods

119. More teaching should be undertaken in small classes; lectures should normally be devoted to the exposition of principles to large audiences. (Paras. 567, 568.)

120. Every student should be assigned to a tutor and should receive regular personal guidance. (Para. 570.)

121. Every student should be regularly set written work, which should be returned and discussed with him. (Para. 570.)

122. Discussion periods should complement lectures. (Para. 571.)

123. All newly-appointed junior teachers should have organised opportunities to acquire the techniques of lecturing and conducting discussion groups. (Para. 572.)

Examinations

124. Universities should consult together about methods of examination. The Council for National Academic Awards should promote the exchange of views and information on examination methods amongst institutions of further education. (Para. 574.)

Wastage

125. The success or failure of a student should depend only on his ability and attainment: in no university faculty should there be a percentage of students whom it is customary to fail. (Para. 580.)

126. Every university department should keep the wastage rate continuously under review. (Para. 581.)

127. In further education wastage rates should be reduced by the provision of a wider range of courses at degree level and by more attention to teaching methods. (Para. 584.)

Social intercourse

128. Universities should provide facilities for social contact between staff and students. (Para. 586.)

Living accommodation

129. Residential accommodation should be provided for a number equivalent to two-thirds of the additional students coming into all sectors of higher education. (Para. 594.) By 1980 over 225,000 additional residential places should be provided. (Para. 595.)

Vacations

130. Students should spend a large part of their vacations on work related to their fields of study and grants should be assessed accordingly. They should receive guidance on how to use the vacations and should be required to give evidence that the time has been profitably spent. (Para. 597.)

FINANCIAL AND ECONOMIC ASPECTS (CHAPTER XIV)

131. The introduction of loans to students instead of grants would not be appropriate, at least for the immediate future. (Para. 647.)

132. Tuition fees should be revised so that in future they meet at least 20 per cent. of current institutional expenditure. (Para. 654.)

THE INTERNAL GOVERNMENT OF INSTITUTIONS OF HIGHER EDUCATION (CHAPTER XV)

Autonomous institutions

133. Governing bodies should normally contain a majority of lay members. (Para. 665.)

134. Lay members appointed by an outside body should be appointed for a definite period of years and as individuals, not delegates. (Para. 667.)

135. Non-professorial staff should be enabled to play a full part in internal self-government. (Para. 670.) Staff at all levels should be informed of the reasons for policy decisions. (Para. 675.)

136. The administrative burden on vice-chancellors should be reduced. (Para. 676.)

137. Delays between the retirement of a vice-chancellor and the appointment of his successor should be avoided. (Para. 677.)

Further education

138. Institutions of higher education administered by local authorities should have a properly constituted governing body, with suitable academic representation and lay membership. (Para. 679.)

139. Governing bodies should be given responsibility for finance three years ahead under broad categories of expenditure. (Para. 680.)

140. Principals should be appointed by governing bodies on which academic interests are represented. (Para. 681.)

141. Senior academic appointments should be made by the principal and senior academic staff, with lay advice. (Para. 681.)

142. Junior academic appointments should be made by appropriate committees of academic staff. (Para. 681.)

143. The principal and senior staff should control the admission of students. (Para. 682.)

144. Boards of studies should be responsible for syllabuses and courses. (Para. 682.)

The federal principle and other forms of association

145. If the Universities of Wales and London cannot themselves speedily and satisfactorily resolve the problems arising from a federal structure, these problems should be the subject of independent inquiries. (Para. 686.)

146. If the Universities of Oxford and Cambridge are unable themselves to solve within a reasonable time problems arising from their collegiate structure, these problems should be the subject of independent inquiries. (Para. 687.)

147. The Universities (Scotland) Act, 1889, should be repealed and the constitutions of the universities amended accordingly. (Para. 690.)

148. Parliament should consider whether it is any longer necessary to require ordinances and statutes of certain universities to be submitted to it for approval as well as to the Privy Council. (Para. 691.)

The Committee of Vice-Chancellors and Principals

149. The Committee of Vice-Chancellors and Principals should be reconstituted. Each university should be represented on the Committee by its chief administrator and by a member of the academic staff elected by the senate. (Para. 696.)

150. The Committee should appoint a standing committee of fifteen to twenty members and standing or *ad hoc* sub-committees as required. (Paras 697, 699.)

The Grants Commission

151. A single Grants Commission should be responsible for advising the Government on the needs of all autonomous institutions of higher education in Great Britain and for distributing grants to them. (Para. 744.)

152. The Commission should consist of a full-time chairman, two full-time deputy chairmen and about twenty part-time members. (Para. 744.)

153. The Commission should set up standing committees to deal with areas of study and *ad hoc* committees to deal with topics of current interest. (Para. 745.)

154. There should be two education committees responsible to the Commission for Schools of Education in England and Wales and Colleges of Education in Scotland respectively. (Paras. 745, 746.)

155. The Commission and its committees should continue the practice of visitations to institutions, including Schools of Education and their constituent Colleges of Education. (Para. 747.)

156. The staff of the Commission, which should be responsible to the Commission itself, should be considerably larger than that of the University Grants Committee. (Para. 749.)

157. The Commission should devise improvements in the present system for the allocation of recurrent grants, and put them into effect as soon as possible. (Para. 751.)

Accountability

158. The present arrangements under which the University Grants Committee and the universities are not accountable in detail to Parliament should be applied to the Grants Commission and to all the institutions for which it becomes responsible. (Para. 755.)

Academic salaries

159. There should be an independent body to advise the Government on the salaries of academic staff in autonomous institutions of higher education. (Para. 761.)

Ministerial responsibility

160. There should be a Minister of Arts and Science responsible for the Grants Commission, the Research Councils and other autonomous state-supported activities administered on similar principles. (Para. 784.)

161. On questions of particular concern to the Scottish universities the views of the Secretary of State for Scotland should continue to be taken into account; and he should be associated with the Minister of Arts and Science in considering advice from the Grants Commission on the affairs of Central Institutions and the Scottish Colleges of Education when they are placed under the Commission. (Paras. 789, 790.)

162. Responsibility for the other institutions of higher education in England and Wales should remain with the Minister of Education and, in the main, with the local education authorities; and, in Scotland, with the Secretary of State. (Paras. 783, 791.)

Co-ordination

163. The three ministers concerned with higher education should establish a small Consultative Council, composed of people representative of various educational and other interests, to which they can remit major questions covering the whole field of higher education as well as its relations with the schools. (Para. 797.)

164. The Council for National Academic Awards should be appointed by and advise all three ministers concerned with higher education. (Para. 799.)

165. National advisory councils in the field of advanced further education should include representatives of the autonomous institutions and the Grants Commission and should also advise all three ministers. (Para. 800.)

166. The National Advisory Council on the Training and Supply of Teachers should advise both the Minister of Arts and Science and the Minister of Education. (Para. 802.)

167. Similar arrangements for co-ordination should be made in Scotland. (Para. 803.)

Research and statistics

168. Research into higher education should be encouraged both by the various responsible organs of government and by private foundations. (Para. 804.)

169. There should be an appropriate organisation of governmental statistical services to ensure that adequate statistics relating to education as a whole are collected and analysed on a uniform basis. (Para. 806.)

170. The Government should provide sufficient resources to enable the universities to offer in 1966/67 about 10 per cent. more places than are at present planned for that year. (Para. 817.)

Capital building programmes

171. There should be an immediate announcement that the universities' capital building programme for 1964 and succeeding years will be substantially increased so that more accommodation, for teaching and especially for residence, can be provided. (Para. 818.)

Recurrent grants

172. Recurrent grants should be increased sufficiently to enable full use to be made of new buildings and to maintain the present student/staff ratios. (Paras. 818, 819.)

173. If the universities cannot recruit enough additional teachers to maintain the present student/staff ratios, these recurrent grants should be available for the provision of more technical and secretarial assistance to ease the burden on teachers and for the additional remuneration of teachers who undertake extraordinary additional duties. (Para. 819.)

Other measures

174. Universities should consider the introduction of courses for first degrees combining study during the day with evening instruction, and also the introduction of correspondence courses. (Paras. 820, 821.)

175. The Council for National Academic Awards should be set up immediately so that degrees can be awarded to those taking degree level courses outside the universities. (Para. 823.)

Co-ordination

176. The government should take the initiative in co-ordinating the dissemination of information about opportunities in full-time higher education as a national information service, which should be established immediately. (Para. 825.)

177. The Minister of Arts and Science should be appointed forthwith to act in the first place as minister co-ordinating action by the ministries concerned, the Grants Commission and the Committee of Vice-Chancellors and Principals. (Para. 826.)

178. The Consultative Council should be established forthwith to appraise the adequacy of measures taken. (Para. 826.)

APPENDIX II

THE QUEEN'S UNIVERSITY OF BELFAST

1. A note on the history of the University*

1. At the end of the eighteenth century, the only university in Ireland was the University of Dublin (Trinity College) which had received its first Charter in 1592. As Trinity College was controlled by the established Church, the Church of Ireland, it had been virtually closed throughout its history to dissenters and Roman Catholics but, with the relaxation of the penal code at the end of the eighteenth century and the growing demand for a widening availability of university education, it was opened to all denominations in 1793. A year later a Roman Catholic college was set up in Maynooth. Nonetheless, discussion about founding a completely new university continued, particularly in Ulster, where some advocated a university to cater primarily for Presbyterians and others a non-sectarian establishment. Sites suggested included Cookstown and Armagh.

2. The first steps had already been taken towards providing education of university standard in Belfast, which at that time was fostering a vigorous commercial and intellectual life. The Belfast Academy was founded in 1785 as a combined grammar school and college but, although it succeeded as the former, it failed as the latter largely because of a lack of funds. A more successful venture was the Belfast Academical Institution, formally opened in 1814, with a school and a collegiate department. The latter consisted of a Faculty of Arts providing education of university standard and a Faculty of Medicine, added in 1835. The Institution, which received a parliamentary grant for a number of years both at the time of its foundation and from 1829 to 1849, was not empowered to grant degrees, but the General Certificate of its Faculty of Arts was recognised by the Presbyterian Church as the equivalent of a degree for candidates for the ministry of that Church.

3. This collegiate department occupied the role of a university in Ulster until, after considerable discussion closely bound up with the course of Irish politics at that time, the Queen's Colleges (Ireland) Act was passed in 1845, setting up three non-sectarian Queen's Colleges in Belfast, Cork and Galway. These were linked as constituent colleges of the Queen's University in Ireland, founded in 1850, which granted degrees for courses held in them. This development made the collegiate department of the Belfast Academical Institution redundant, but some of its professors and many of its students continued their work in the new Queen's College.

4. The Queen's College had Faculties of Arts (in which there were scientific and literary divisions), Medicine and Law, and it also offered courses leading to diplomas in civil engineering and agriculture. It opened in 1849 in buildings designed by Sir Charles Lanyon (the present west front

* Sources are " Queen's, Belfast, 1845–1949 " by T. W. Moody and J. C. Beckett (Faber and Faber, 1959), " Queen's " by J. C. Beckett (Marjory Boyd, 1959) and the Queen's University of Belfast Calendar for 1963/64.

of the University) with 19 professors, 90 matriculated and 105 non-matriculated students. Even in its first years accommodation was limited. As the plans had been drawn up before it was finally decided to have professional schools in the College, the Faculty of Medicine was not adequately housed and until 1862 had to use teaching space in the Academical Institution. No provision of any sort was made for social facilities for students.

5. The College progressed steadily. Within ten years it had doubled the number of matriculated students, and within twenty had quadrupled it. Extension of the buildings did not keep pace with this growth. The only additions of note were the medical block, which was not provided until 1862 and was then enlarged in 1866, the engineering classrooms built in 1864, the library in 1866 (the books until then being accommodated in the Examination Hall) and a gymnasium in 1873.

6. The other Queen's Colleges were also developing steadily but the political aspects of the Irish University question were constantly before the Government and ultimately, in 1879, the Queen's University in Ireland was dissolved and the Royal University of Ireland constituted in its place.

7. This was an examining body only and students could present themselves for its examinations and degrees no matter whether they had attended college lectures or not. As many students found it cheaper or more convenient to prepare for their examinations elsewhere, the Queen's Colleges suffered severely by the change. At Belfast, student numbers fell and did not recover their former level for 20 years. Moreover, although the Queen's Colleges retained their endowments, they had no effective share in determining University policy or in drawing up the courses prescribed for degrees. The dissolution of the Queen's University in Ireland therefore caused anxiety about the future of the Queen's Colleges and, within the Colleges, created dissatisfaction and frustration.

8. About this period, however, Queen's College, Belfast, began to look for and to obtain more financial support locally. An appeal was organised to raise money for a Students' Union which was opened in 1897, and a more extensive appeal, launched in 1901 to create a permanent fund for the general purposes of the College, resulted in the establishment of the Better Equipment Fund. This provided the College with an income of its own independent of Government grants which was used both for capital purposes and to enlarge the teaching staff. At the end of the century, too, the Government began to increase its aid to the College. In 1894 it undertook to provide a new chemistry laboratory and later grants, supplemented by the Better Equipment Fund, made possible the erection of a range of new buildings, including the Donald Currie, the Musgrave and the Jaffé Laboratories, named after three of the most generous contributors to the Fund. A donation from Harland & Wolff Limited was used to build the Harland Engineering Laboratories. In 1894 also a bid was made to purchase the Royal Botanic Gardens, then up for sale, but a Government grant was not obtained and Belfast Corporation acquired the whole site.

9. Even with this expansion the future status of the College remained uncertain. The establishment of the Royal University had not provided a satisfactory solution to the problems of university education in Ireland. The number of students attending the three Queen's Colleges had fallen

alarmingly, and by 1901 only about one-third of those qualified for degrees of the University had followed courses in the "recognised" Colleges of the University—the three Queen's Colleges, St. Patrick's College, Maynooth, and Magee Presbyterian College. A Royal Commission was set up in that year and eventually the Government decided to dissolve the Royal University and to replace it by two universities, the National University of Ireland with its seat in Dublin and constituent colleges in Dublin, Cork and Galway, and the Queen's University of Belfast, which was in effect the Queen's College raised to the rank of an independent university. The Irish Universities Act, 1908 gave effect to this decision. The retention of the title "Queen's" for the Northern university was intended to stress continuity with the foundation of 1845 and to proclaim adherence to the principle of non-sectarian education on which the old Queen's Colleges had been founded.

10. The Royal Charter granted to Queen's University in 1908 brought about a complete revision of the constitution of the former College and, with some amendments, stands to the present day*. The creation of the Senate as the governing body brought laymen into the government of the institution for the first time and formed a link between the University and public life in Ulster.

11. The change in status also brought an improvement in the financial position. The University took over the buildings, equipment and private endowments of the College. It was to have an annual income of £28,000 a year† and, in addition, the Government made a grant of £60,000 for capital expenditure. As a result, there was a considerable expansion of staff and an extensive building programme, which was started in 1909 and completed in 1914. Under this the Students' Union and the medical building were extended, a reading room was added to the Library and a new physics block erected. The houses of the President and Registrar were taken over for lecture rooms and Elmwood House was bought to be the official residence of the Vice-Chancellor. The main quadrangle, based on the original College Building, was also completed, except for part of the southern side which remained undeveloped until 1934.

12. Student numbers at the new Queen's University increased, rising sharply during and after the first World War, and by 1919 they totalled over 1,000. The Faculty of Commerce was added in 1910 (renamed the Faculty of Economics in 1947), the Faculty of Applied Science and Technology in 1921 (with the co-operation of the Belfast College of Technology‡), the Faculty of Agriculture in 1924 and the Faculty of Theology in 1926. In addition, in the early 1920s, a School of Dentistry was developed within the Faculty of Medicine. A Department of Extra-Mural Studies was added in 1928.

13. The setting up of a separate government in Northern Ireland in 1920 had an important effect on the University. Section 64 of the Government of Ireland Act, 1920 secured the independence§ and statutory income of the University, but it was of equal significance that this political change

* Appendix II, 2.
† £10,000 from the Irish Church Temporalities Fund and £18,000 under the Irish Universities Act, 1908.
‡ Appendix III, 1.
§ Appendix II, 2: Paragraph 1.

linked the University even more closely with the Northern Ireland community. This was increasingly recognised in support from local authorities and from private benefactors and in growing extra-statutory grants and other assistance from the Government of Northern Ireland. One example of co-operation between the University and the Government was the establishment of the Faculty of Agriculture. The newly-formed Ministry of Agriculture was anxious to encourage agricultural education and research and, after negotiation, the University agreed to set up a Faculty on condition that the Government supplied the annual grant necessary to maintain it and the capital grant to provide buildings. This was forthcoming and a building was erected for the Faculty in Elmwood Avenue. Another example was in teacher training. In 1920 there was only one training college in Northern Ireland—St. Mary's Training College, Belfast—and the new Government had to organise additional facilities for the training of teachers to staff the public elementary schools. The University's Department of Education was asked to help and an arrangement was approved by the University Senate, whose Committee of Education had, in fact, earlier supported a scheme for the training of teachers within the University. Under this, for a period which ran from 1922 to 1929 until the new Stranmillis Training College lecture block was ready for occupation, trainee public elementary school teachers were taught mostly by University staff on University premises, either as matriculated or non-matriculated students. The University's Professor of Education was also for a time Principal of Stranmillis Training College.

14. There was continued physical expansion during the 1920s and the 1930s. In 1930 the University acquired the seven houses comprising Queen's Elms which were used as a hostel for men students. This hostel was demolished in 1963 to clear a site for a new Students' Union. The Institute of Pathology was opened in 1933 in the grounds of the Royal Victoria Hospital, the first major building of the Faculty of Medicine to be sited there. The quadrangle was completed in 1934 by a new building with accommodation for the Faculty of Arts. In 1934, also, Sir William Whitla left his home, Lennoxvale, as an official residence for the Vice-Chancellor; Elmwood House was then transferred to other University purposes. Sir William Whitla also left the sum of £35,000 to provide an Assembly Hall, but the completion of this was delayed by the second World War and it was not opened until 1949.

15. There was another marked increase in student numbers during and after the second World War. Between 1938 and 1946 the student population rose from about 1,500 to 2,500. By the end of the War the importance of building up universities as a part of the future development of education was being recognised. In the Northern Ireland context this inevitably led to ensuring that the financial treatment of the University by the Government was in line with that of universities in Great Britain. Accordingly, on the invitation of the Government of Northern Ireland, the University Grants Committee visited Queen's University in 1945 and reported on its position and needs. On the basis of this report the Government greatly increased its annual grant and also provided substantial sums for capital expenditure. Since that date the University Grants Committee has visited Queen's University every five years and has given advice to the Northern Ireland

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Government both on recurrent and on capital grants, the former increasing by 1963/64 to £1,308,300, and the latter to £1,647,500. The enrolment of full-time students has risen to over 4,000 in the same period.

16. Income from other sources was also increased by the setting up of the Centenary Endowment Fund, organised to mark the 100th anniversary of the opening of Queen's College, which realised over £250,000. In practice the income from this represents about 1 per cent of the amount received from the Government towards current expenditure. Income from private endowments and the various funds is a minute part of the University's income.

2. Constitution of the University

1. The constitution of the Queen's University of Belfast is to be found in the Irish Universities Act, 1908, the Royal Charter of 2nd December, 1908, and the Statutes of the University. The original Statutes of the University were drawn up by a body of Commissioners, the Belfast Commissioners, appointed under the Irish Universities Act, 1908. Amendments or new statutes, except in matters regulated by the 1908 Act or by the Charter, are made by the Senate of the University, subject to representations by the Academic Council, the General Board of Studies and Convocation. If approved, they are laid before both Houses of Parliament, which may disallow them within a period of forty days.* Matters regulated under the Irish Universities Act or the Royal Charter can be amended only by Act of Parliament but, under Section 64 of the Government of Ireland Act, 1920, it is provided that no law made by the Parliament of Northern Ireland shall have effect so as to alter the constitution of the University, impair its privileges or divert its property (save for works of public utility upon payment of compensation) unless previous consent had been obtained from the Senate, the Academic Council and Convocation at meetings specially called for the purpose.

2. The authorities of the University are the Chancellor, the Pro-Chancellors, the President and Vice-Chancellor, Convocation, the Senate, the Academic Council, the General Board of Studies and the faculties.

3. The Chancellor, who is elected by the members of Convocation and holds office during his life or until his resignation, is the head of the University and is entitled to preside at meetings of the Senate and of Convocation. The Pro-Chancellors, of whom there may be two or three, are elected by the Senate, and the senior Pro-Chancellor available acts for the Chancellor in his absence. A Pro-Chancellor holds office for five years but is eligible for re-election. The President is ex-officio Vice-Chancellor and is the principal administrative officer of the University. He presides at meetings of the Academic Council, the General Board of Studies and the Board of Curators and, in the absence of the Chancellor and any Pro-Chancellor, at meetings of the Senate, or, in the absence of the Chancellor, at meetings of the Standing Committee of the Senate. His duties include the exercise of disciplinary powers over academic and other staff and over students, and

* Irish Universities Act, 1908: Sections 4 and 5.

the general oversight of the correspondence of the University, subject to the authority of the Senate. He also has emergency powers pending action by the Senate. In recent years, one of the professors was nominated Vice-President to assist the Vice-Chancellor in administration, particularly in matters concerning the University's building programme. A second Vice-President post was recently created with special responsibility for finance.

4. Convocation is a general advisory body and comprises the Chancellor, the Pro-Chancellors, the Vice-Chancellor, the remaining members of the Senate, the professors and lecturers of the University, and those graduates of the University who are enrolled as members. Its principal functions are the election of the Chancellor and of representatives to the Senate, and the consideration of new statutes; but it may discuss and pronounce an opinion on any matter relating to the University.

5. The governing body of the University is the Senate. It consists of 45 persons, namely the Chancellor, the Pro-Chancellors, the Vice-Chancellor, the Registrar, the Honorary Treasurer of the University, the Secretary to the Academic Council, the President of the Students' Representative Council if a graduate of the University, four Crown nominees of whom one at least must be a woman, six professors of the University elected by the Academic Council, eight representatives of Convocation, three of the Executive Committee of the Better Equipment Fund,* one each of the Belfast College of Technology, the Belfast Chamber of Commerce and the Royal Victoria Hospital, Belfast, nominees of each of the six County and two County Borough Councils and up to four co-opted members. It has recently been agreed that the President of the Students' Representative Council may attend meetings of the Senate even though he is not a graduate of the University.

6. Subject to certain conditions, the Senate has power to regulate and determine all matters concerning the University and to exercise all powers and discretions, including the power to make all appointments and to assume certain disciplinary powers. It also makes statutes and regulations for the general government of the University. Most of its detailed business is delegated to a Standing Committee consisting of the Chancellor, the Vice-Chancellor, the Registrar and seven members of the Senate, three of whom are also members of the Academic Council. This Committee reports on all matters referred to it by the Senate and on all recommendations made to the latter by other University bodies.

7. On appointments of academic staff the Senate is advised by a Board of Curators consisting of the Vice-Chancellor, four non-professorial members of the Senate and four professors nominated by the Academic Council, two of whom hold chairs in subjects cognate with those in which the appointments are being made. Through its Library and Finance Committees it supervises the Library and the financial affairs of the University. The Librarian acts as Secretary to the former and the Bursar to the latter. Another advisory committee is the Buildings Committee, which is responsible for all building operations, for supplying furniture and for the maintenance of University property.

* Appendix II, 1: Paragraph 8.

8. The Academic Council consists of the Vice-Chancellor, the professors of the University and such lecturers as may be co-opted by the Vice-Chancellor and the professors. In recent years there have been six such co-opted lecturers together with the Director of Extra-Mural Studies and the Secretary to the General Board of Studies, if he is a reader or a lecturer. The Librarian, although not a member, attends the meetings of the Council. The present membership of the Council totals about 60. The Council controls the internal academic affairs of the University and exercises authority in questions of discipline, the conduct of examinations, the award of scholarships and other academic matters. In other matters—such as the appointment of examiners, the creation or suppression of posts, proposals for the foundation or abolition of fellowships, proposals for new buildings or equipment, applications from departments for grants for study or research, communications from the Students' Representative Council—it makes recommendations or reports to the Senate.

9. The Academic Council works through a number of sub-committees. The most important of these are the Deans' Committee, which acts as the standing committee of the Council and the members of which are the Deans of the various Faculties; the Discipline Committee, which exercises disciplinary powers over students; the Research Committee, which is concerned with research generally and in particular with matters relating to postgraduate awards; and the Scholarships Committee, which is concerned with matters relating to undergraduate awards. The Secretary to the Academic Council is a professor appointed by the Council and he has his own office and staff distinct from the office and staff of the Secretary to the University. The Secretary to the Council also acts as secretary to the Council's committees.

10. The General Policy Committee is a joint committee of the Senate and Academic Council. It is responsible for drafting the University's submissions to the University Grants Committee, for preparing statements of the University's requirements for non-recurrent grants from the Ministry of Finance, for considering the future size of the University and the consequent financial implications, and for planning the development of sites and property owned by the University and keeping under review the area within which sites should be acquired.

11. The General Board of Studies consists of the Vice-Chancellor, all the professors, readers and lecturers, other co-opted teachers, the external examiners and some recognised teachers in recognised colleges. Its principal functions are to make recommendations to the Senate relating to matriculation and to courses of study. Its committees are the Matriculation Committee and the Recognition Committee, the latter being concerned with the recognition of teachers in colleges recognised by the University.

12. The eight faculties are Arts, Economics, Law, Medicine, Science, Applied Science and Technology, Agriculture and Theology. There is also a Board of Extra-Mural Studies. Each faculty consists of the Vice-Chancellor and the professors and lecturers in the subjects of the faculty. In addition, most faculties have two or three co-opted members from outside the University. Each is presided over by a dean, elected annually by the members of the faculty from the professors in the faculty. Retiring deans are eligible

for re-election. It is the practice in some faculties for the dean to serve for a three-year period and in others for an indefinite period. The dean is the executive officer of the faculty; he summons, presides at and is responsible for the business of its meetings. He is an ex-officio member of all faculty committees, presents candidates for degrees and, unless a separate adviser of studies has been appointed, advises students on their courses of study. Each faculty acts as a board of studies for the departments in the faculty, under the supervision of the General Board of Studies, and it reports on any matters referred to it by the Academic Council or the General Board of Studies.

13. The Students' Representative Council, which is elected annually by the students of the University, is the recognised formal channel of communication between students and the authorities of the University and represents and promotes student interests both within the University and in relation to students of other universities. It is entitled to make representations to the Senate on any matters affecting the interests of the students through the medium of the Academic Council, which forwards them with its recommendations.

14. The Secretary to the University, who is appointed by the Senate, is responsible for preparing business for meetings of the Senate, the Standing Committee and the Buildings Committee. His functions cover the keeping of the University records, the provision of information to the professors, to the Clerk of Convocation and to the Deans of Residence nominated by religious denominations to exercise spiritual care over students, the correspondence of the University, the production of the Calendar and other publications, the publication of lists of successful candidates and the oversight of regulations for admission to degrees. A new post of Executive Officer for Capital Development was recently created.

15. The Librarian is appointed by the Senate and, subject to the supervision of the Library Committee, is responsible for the safe-keeping, arrangement and cataloguing of the books and manuscripts in the Library, for acquisitions and for the administration of the Library.

16. The Bursar is also appointed by the Senate and is responsible to it through the Finance Committee and the Honorary Treasurer. His duties include the keeping of the accounts of the University, collecting fees and other income, presenting estimates to the Finance Committee, preparing information about the University's financial affairs and disbursing the sums required for current and capital expenditure.

17. The University has power, under certain conditions, to recognise colleges in Ireland in which instruction of a university type is given under qualified teachers, and to regard attendance by matriculated students of the University at approved courses in such colleges as qualifying for its degrees either in whole or in part. Before granting recognition to any college the University must be satisfied as to its general character and financial position, the adequacy in numbers and qualification of its teaching staff, the standard of its teaching and the adequacy of the provision of

facilities for giving instruction in the subjects in respect of which recognition is sought. The teachers who give the instruction in the approved courses of study must be individually recognised by the University, and it may, under certain conditions, confer on them the honorary title of Extra-Mural Professor or Extra-Mural Lecturer. The colleges recognised by the University are:—

The College of Technology, Belfast, for approved courses of instruction in the Faculty of Applied Science and Technology and the Faculty of Economics.

Magee University College, Londonderry, for approved first courses of instruction in certain subjects in the Faculty of Arts.

The Presbyterian College, Belfast, and Edgehill Theological College, Belfast, for approved courses of instruction in the Faculty of Theology.

3. Degrees and diplomas

Faculty of Arts

There are six degrees in this Faculty, viz:—

Bachelor of Arts (B.A.)
Bachelor of Music (B.Mus.)
Bachelor of Education (B.Ed.)
Master of Arts (M.A.)
Doctor of Literature (D.Lit.)
Doctor of Music (D.Mus.).

The degree of B.A. is normally taken as a general (pass) degree in three years or as an honours degree in four years.

The degree of B.Mus. is an honours degree, normally taken in four years.

The degree of B.Ed. is postgraduate, and requires two years of full-time study or three years of part-time study followed by one year of full-time study. The University Department of Education also offers a one-year full-time or three-year part-time course leading to the Diploma in Education.

Faculty of Economics

There are three degrees in this Faculty, viz:—

Bachelor of Science in Economics (B.Sc.(Econ.))
Master of Science in Economics (M.Sc. (Econ.))
Doctor of Science in Economics (D.Sc. (Econ.)).

The degree of B.Sc. (Econ.) may be taken as either a pass or an honours degree. The normal periods of study are: for the pass degree, three years full-time or five years part-time, which may be reduced to four years in certain circumstances; for the honours degree, four years full-time or five years part-time together with a final year of full-time study.

The Faculty also offers a two-year or three-year part-time course leading to the Diploma in Public Administration and a one-year or two-year full-time course leading to the Diploma in Social Studies.

Faculty of Law

There are three degrees in this Faculty, viz:—

Bachelor of Laws (LL.B.)
Master of Laws (LL.M.)
Doctor of Laws (LL.D.).

The degree of LL.B. is normally taken after three years of study by undergraduates, or after two years by graduates. The final examination is an honours examination but a student who does not obtain honours may be awarded a pass degree.

Faculty of Medicine

There are eight degrees in this Faculty, viz:—

Bachelor of Medicine (M.B.)
Bachelor of Surgery (B.Ch.)
Bachelor of Obstetrics (B.A.O.)
Doctor of Medicine (M.D.)
Master of Surgery (M.Ch.)
Master of Obstetrics (M.A.O.)
Bachelor of Dental Surgery (B.D.S.)
Master of Dental Surgery (M.D.S.).

The degrees of M.B., B.Ch. and B.A.O. are all conferred at the same time after a course of study which lasts normally for six years. Honours may be awarded on the results of the final medical examination. In addition, before he can be registered as a medical practitioner, a graduate must have twelve months' resident hospital experience.

The degree of B.D.S. is normally taken after five years of study. Honours may be awarded on the results of the final dental examination.

The Faculty also offers a one-year full-time or eighteen-month part-time course leading to the Diploma in Public Health.

Faculty of Science

There are three degrees in this Faculty, viz:—

Bachelor of Science (B.Sc.)
Master of Science (M.Sc.)
Doctor of Science (D.Sc.).

The degree of B.Sc. is normally taken either as a pass degree in three years or as an honours degree in four years. Most students seeking honours first take a pass degree and a year later take an honours certificate. The Faculty also offers a one-year full-time course leading to the Diploma in Numerical Mathematics.

Faculty of Applied Science and Technology

There are three degrees in this Faculty, viz:—

Bachelor of Science (B.Sc.)

Master of Science (M.Sc.)

Doctor of Science (D.Sc.).

The degree of B.Sc., whether pass or honours, is based on a four-year course but may be taken in three years.

Faculty of Agriculture

There are two degrees in this Faculty, viz:—

Bachelor of Agriculture (B.Agr.)

Master of Agriculture (M.Agr.).

The degree of B.Agr. may be taken either as a degree in general agriculture or as a degree with honours in one or more of the agricultural sciences. The former is normally taken over a period of four years. Candidates for the latter must have previously taken the degree of B.Sc., and must complete another one or two years' study.

Faculty of Theology

There are two degrees in this Faculty, viz:—

Bachelor of Divinity (B.D.)

Doctor of Divinity (D.D.)

Candidates for the degree of B.D. must be graduates and must pursue a two-year course of study.

The Faculty also offers a Diploma in Theology based on a two-year part-time course.

. . . . . .

Doctor of Philosophy

The degree of Doctor of Philosophy (Ph.D.) may be conferred on graduates of any university who have pursued for not less than two years a course of study or research in any faculty under such conditions as may be prescribed by Queen's University and have presented a thesis embodying the results of their work. The degree may also be conferred on certain non-graduates who have a qualification equivalent to a degree.

4. Entrance requirements

The following extracts are taken from the Calendar of Queen's University for 1963/64.* The University's matriculation examination was suspended in May, 1964. Until the end of 1965 students may enter the University either by the following entrance regulations or by the entrance regulations printed in the Calendar for 1962/63 :—

"1. No person shall be admitted as a matriculated student of the University, who is under the age of seventeen years on the 15th of October of the year in which he enters.

2. A candidate for admission to the University who desires to proceed to a primary degree† or diploma shall be required to fulfil

(i) a *General* requirement, and

(ii) a *Course* requirement.‡

A candidate who fulfils the General and Course requirements for entry to a particular course of study will be regarded as fulfilling the examination requirements for matriculation. The General . . . requirements are set out below :

The candidate must have obtained a Northern Ireland, English or Welsh General Certificate of Education or a Scottish Certificate of Education which fulfils one of the following :

A. The candidate must have obtained passes (not necessarily on the same occasion) in

(*a*) English Language

(*b*) a language other than English

(*c*) *either* Mathematics *or* an approved Science subject

(*d*) *three* other subjects from the list set out below.

Two of the six subjects must be passed at the Advanced level or, in the case of the Scottish Certificate, *three* at the Higher grade.

or

B. The candidate must have obtained passes in

(*a*) English Language

(*b*) a language other than English

*Queen's University 1963/64 Calendar: Pages 94–95; 99–100.
†Elsewhere in this Report the term used is " first degree ".
‡The course requirements are not included in this extract.

(*c*) *either* Mathematics *or* an approved Science subject

(*d*) *two* other subjects.

In the case of a Northern Ireland, English or Welsh Certificate *three* of the five subjects must be passed on the same occasion, and *two* of these three at the Advanced level; in the case of a Scottish Certificate *four* of the five subjects must be passed on the same occasion and all *four* at the Higher grade.

List of Subjects

English Literature
Hebrew
Greek
Latin
French
German
Irish
Italian
Russian
Spanish
Ancient History
Modern History
British Constitution
Economic History
Geography
Economics
Music
Mathematics (Traditional *or* Alternative *or* General Course *or* Pure)
Applied Mathematics

Approved Science Subjects

Physics
Chemistry
Biology
Botany
Zoology

Note: (1) Not more than *three* languages other than English may be counted.
(2) Biology may not be counted with Botany or Zoology.
(3) Not more than *two* historical subjects may be counted.

. . . . . .

A candidate of mature age (*i.e.* a person of not less than 23 years of age on June 1st in the year of their application) who wishes to enter upon courses of study in the University without passing the ordinary matriculation examination must make application to the Clerk of Admissions, giving full particulars of his educational career.

These applications will be considered by a special committee of the Academic Council, which may submit such candidates to such tests of their fitness to profit by the courses of the University as they may consider necessary in each case.

. . . . . .

A candidate who has been engaged in industry and who wishes to enter upon courses of study in the Faculty of Applied Science and Technology

without passing the ordinary Matriculation examination must make application to the Clerk of Admissions . . . giving particulars of his educational career.

An application will be considered provided the candidate is not less than 19 years of age on June 1st in the year of application and provided also that the following conditions are satisfied :—

(*a*) The candidate has been engaged for a period of at least three years in full-time industry or technical employment such as is deemed appropriate in view of the degree course he desires to follow.

(*b*) The candidate has attended a systematic course of instruction in subjects related to his employment for a period of at least three years and has been awarded an Ordinary National Certificate.

The candidate may be required to submit himself to such further tests of his fitness to profit by the proposed course as may be considered necessary by the Academic Council."

5. Major building projects completed since 1950

Building	*Completed*	*Cost* (£000,000)*
Institute of Pathology (extension)	1951	·06
Civil Engineering (extension)	1952	·07
Library Reconstruction	1952	·04
Geology Building	1954	·15
Institute of Clinical Science	1954	·47
Queen's Elms Men's Hostel (extension) ...	1956	·05
David Keir Building	1958	2·2
Physics Building	~~1958~~ 1962	·87
Electrical and Mechanical Engineering Building (Ashby Institute)	1964	2·2
Microbiology Building	1964	·5

* Excluding cost of site acquisition.

6. New buildings, etc., approved or in course of construction*

Building or Scheme	Estimated completion date	Accommodation	Cost† (£000,000)
Playing Fields	Mid-1965	Assumes student population of 4,000/4,500. About 750 students are expected to use the 114 acres of playing fields regularly	·4
Social Sciences Building	September, 1965	To provide for a total of 770 students compared with the present 610	·4
Four Halls of Residence ... ... (Fifth hall approved but not included except for related dining block accommodation.)	January, 1966	760 students	1·6 (including dining block for fifth hall)
Students' Union and Refectory ...	August, 1966	Assumes student population of 4,000/4,500 (2,500/3,000 users at peak periods) requiring 3,000/3,500 meals or snacks per day	·9
Library Extension	September, 1966	Assumes 4,750 students by 1967/68 requiring 305 reading places	·6
Pre-clinical Building	October, 1967	Anatomy students ... ... 330 Physiology students ... ... 392 Biochemistry students 432	1·6
Physical Education Centre and Swimming Pool	Cannot be estimated because of uncertainty of obtaining intended site	At least 30 per cent. of student body using physical education facilities as at present—but the provision is not geared to a particular student population	·5

* In addition, the University has plans for other building projects but these have either not yet been formally submitted to or approved by the Ministry of Finance.

† Excluding cost of site acquisition.

7. A note on the relationship between Queen's University, the Ministry of Finance and the University Grants Committee

1. The University Grants Committee was set up by the Chancellor of the Exchequer in 1919 "to inquire into the financial needs of university education in Great Britain; to advise the Government as to the application of any grants made by Parliament towards meeting them; to collect, examine, and make available information relating to university education throughout the United Kingdom; and to assist, in consultation with the universities and other bodies concerned, the preparation and execution of such plans for the development of the universities as may from time to time be required in order to ensure that they are fully adequate to national needs".

2. While the Committee is required to collect information about university education throughout the United Kingdom, its financial writ is limited to Great Britain. However, at the request of Queen's University, and with the agreement of H.M. Treasury, the Committee was asked in 1944 to extend its review of the post-War financial needs of universities to include Queen's University, and since then it has advised the Ministry of Finance on the extra-statutory grants which the University should receive from the Government of Northern Ireland.

3. Extra-statutory grants are given to Queen's University for both recurrent and non-recurrent expenditure. Recurrent expenditure includes mainly the salaries of university staff, the running costs of departments, laboratories and libraries, and the cost of maintenance of premises. The recurrent grants towards such expenditure are determined and announced in Parliament for five-year periods though each year's grant is voted annually in the Estimates of Supply Service expenditure. Non-recurrent, or capital, grants cover expenditure on new buildings and adaptations of buildings, on furniture and equipment for new and adapted buildings or departments, on the purchase of sites and properties and on professional fees. The non-recurrent grants are earmarked for specific projects and are also voted annually by Parliament but, since they are related to long-term building programmes, they are arranged on a provisional basis for some years ahead. The timing of the various projects depends partly on the University's needs, partly on the availability of money and partly on an assessment of the ability of the building industry to undertake a project at a reasonable cost.

4. With recurrent grants the procedure is the same in Northern Ireland as in Great Britain, but the Northern Ireland quinquennium starts one year later than that for Great Britain. Towards the end of a quinquennium Queen's University prepares a memorandum on its proposals and its financial needs for the following quinquennium and submits it to the University Grants Committee. The Committee visits the University, discusses these proposals and subsequently forwards its advice to the Ministry of Finance, which has not taken any direct part in the preliminary enquiry. The advice normally covers both the total grant for the five years and the grant which should be allocated each year. The Ministry then bases its offer of grant on this advice, subject to general financial considerations. The University

has complete freedom to decide how the recurrent grant should be spent subject to certain general restrictions, for example, on keeping staff salaries in line with those elsewhere in the United Kingdom and in not introducing without approval any change which could lead to a considerable increase in future expenditure. Savings on recurrent grant may be retained by the University. The total of the quinquennial grant may be increased during the course of a quinquennium to meet unforeseen and unavoidable expenditure, for example, salary awards on a United Kingdom basis. Grant is paid to the University monthly in advance.

5. With non-recurrent grants, the procedure falls roughly into four parts:

(*a*) the general agreement to the need for a specific project;

(*b*) the control over expenditure on each specific project;

(*c*) the annual allocation of grant; and

(*d*) the payment of grant.

(*a*) The University formulates its future plans for a new building in broad terms—i.e. the need for a new building to house a new or expanding department. The University Grants Committee considers the proposal and advises the Ministry of Finance, which then, if it so decides, agrees the project in principle. The project thus becomes part of the long-term building programme of the University.

(*b*) When planning for a specific project is begun—otherwise than for a minor work for the provision of which the University is given delegated authority—the University submits its requirements for accommodation direct to the University Grants Committee. The University Grants Committee then gives a preliminary cost target built up from data about standard areas and costings applicable generally to all similar university buildings in Great Britain, but with allowance for abnormal costs arising, for example, from the need to demolish existing buildings and from difficult site works. The University's architect is then instructed to work within that figure. Sketch plans are submitted to the Committee, which consults the Ministry on any points which appear to have a specially local relevance. On the basis of the Committee's report, the Ministry gives the University formal approval to proceed within a certain figure of cost. When tenders are received, the University informs the Ministry and the Committee of the results and, if the lowest tender exceeds the approved estimate, or if the University should wish to accept a tender other than the lowest, the Ministry considers the question, consulting the Committee if necessary. If tenders are considered unreasonably high, fresh tenders may be sought. During the course of the contract the Ministry is informed about any difficulties which may arise or variations in the cost and again consults the Committee if thought advisable. The Ministry in due course receives the final accounts.

(*c*) In December each year, the University submits to the Ministry its estimate of its requirements for non-recurrent grant for the following financial year. This estimate is scrutinised in the light of cost targets already approved, the phasing of new projects, the possible achievement of the rate of building forecast and the general financial situation. It is discussed with the University and a figure is then fixed for submission to Parliament. The University Grants Committee is not consulted at this stage.

(*d*) Grant is paid in instalments in the course of the financial year on request by the University to enable it to meet expenditure as it arises.

6. Under the Irish Universities Act of 1908 Queen's University accounts are audited by the Comptroller and Auditor General for Northern Ireland. Queen's University is thus in a similar position to other bodies which receive substantial grants from public funds. There is, however, no audit of grants of individual universities in Great Britain by the Comptroller and Auditor General of the United Kingdom, but since 1957 the Comptroller and Auditor General in London has had full access to records maintained by the Treasury (and now, presumably, by the Department of Education and Science) for the purpose of ensuring that the total annual commitment, which has been approved and which the University Grants Committee allocates among individual universities and projects, is not exceeded. This arrangement also ensures that the Treasury is aware of the main projects approved by the University Grants Committee and is warned in good time in the event of any change in the pattern of expenditure. Remote control in this way by the Treasury through an intermediary and independent committee (the University Grants Committee) arose out of the Report of the Haldane Committee in 1905. It has not been possible to establish precisely why the Irish Universities Act of 1908 contained a provision for audit at variance with the Haldane recommendation but it may be relevant that the universities covered by the Act of 1908 were unequivocally state foundations and from the beginning were supported by state grants to an extent unknown in England at the time.

7. The needs of Queen's University for recurrent grants, being investigated by the University Grants Committee on a quinquennial basis only, are not subjected to the regular scrutiny which characterises the relationship between the Committee and individual universities in Great Britain. The Northern Ireland arrangement, however, makes it possible for Queen's University to be kept in funds by advances of Government grants in relation both to capital and recurrent expenditure. The Comptroller and Auditor General for Northern Ireland does not regard it as his function to enquire into academic policy.

APPENDIX III

HIGHER TECHNICAL EDUCATION

1. The Joint Authority for Higher Technological Studies

1. From 1910 the Belfast College of Technology (then known as the Municipal Technical Institute) was recognised by Queen's University as a College in which courses in electrical and mechanical engineering could be taken as part of an engineering degree course of the University. No other provision for these branches of engineering was made by the University, which itself provided courses in civil engineering only. This arrangement was put on a more formal footing in 1920 when the Senate of the University established the Faculty of Applied Science and Technology and the College virtually became that Faculty, providing in their entirety degree courses in electrical and mechanical engineering, and in chemical technology, pharmacy, naval architecture and textiles. Civil engineering was taught in the Faculty of Science until 1952.

2. The College of Technology played an essential part in providing these teaching facilities for University students. In time, the majority of the students in the Faculty of Applied Science and Technology completed the whole of their course within the walls of the College, although they did mix with students from other faculties in the Students' Union and in the various University student societies and clubs. Nevertheless the Faculty as a whole was somewhat remote from the normal life of the University and the University had little contact with its extra-mural professors and lecturers, except within the Faculty itself on which the science departments of the University were represented by the University professors and lecturers in cognate subjects. In addition, the accommodation and facilities of the College had in the years after the second World War become inadequate and it became obvious that, if the growth of the Faculty and of non-University courses was to continue, considerably more accommodation and equipment would have to be provided.

3. When the University Grants Committee visited Queen's University in 1945 (the first visit at the invitation of the Government of Northern Ireland) it commented on the unsatisfactory situation and said that the arrangements by which civil engineering was completely separate from the other branches of engineering was wrong in principle, and that the first necessity was to get them together under the same roof so as to constitute a real school of engineering instead of several unconnected parts of a school. In 1948 it again commented on the weakness of the arrangements and recommended that early and serious consideration should be given to the matter.

4. Discussions had begun before that date between representatives of the University and of Belfast Corporation about the difficulties, and various proposals were considered. The College of Technology had, in any event, to continue its classes in engineering for Higher National

Certificate students and for students following other non-University courses. Accordingly, if the University had set up its own school of electrical and mechanical engineering there would have been duplication, and possibly redundancy, of expensive facilities and a division of valuable resources, and the Belfast Corporation would probably have objected on the grounds that its previous experience and endeavours were being ignored. If, on the other hand, the Corporation had provided new premises and the professors and lecturers had continued to be employees of the local education authority they would not have had full university status: furthermore, the Corporation might not have been satisfied with the statutory rate of Government grant towards the cost of new premises*. Continued co-operation was obviously necessary and eventually the arrangement embodied in the Higher Technological Studies Act (Northern Ireland) 1954 was reached.

5. Under this Act and the Agreement between Queen's University and the Belfast Corporation, which was incorporated in it as a Schedule and supplemented in 1957, the University undertook to provide a new building for electrical and mechanical engineering, to equip it initially with furniture and technical equipment, and to lease it at a rent of £600 per annum to a Joint Authority for Higher Technological Studies set up under the Act "for the purpose of co-operating in the furtherance of higher technological studies in Northern Ireland". Higher technological studies under the Act means teaching, study and research in mechanical engineering, electrical engineering and such other subjects in applied science or technology as the parties may agree to include. Acronautical engineering and engineering mathematics were included later.

6. The Joint Authority consists of eight members, four representing Queen's University and four the Belfast Corporation, the Chairman being elected in alternate years from among the University members and the Corporation members. It is responsible for the maintenance and equipment of premises, the employment of technical, clerical, domestic or other staff, and the disposal of funds made available to it for these purposes by the two parties as prescribed by the Act. On matters such as the acceptance, enrolment and discipline of students, the number, content and length of courses of study, the dates of terms and the timing of lectures, classes, examinations, the appointment of examiners, and fees and scholarships, the Joint Authority has no powers. The University is responsible for these matters in relation to University students and the Corporation in relation to Higher National Certificate and other students.

7. The University and the Corporation each appoint their own teachers, but it was agreed that University teachers could be recognised as part-time Corporation teachers in courses other than those leading to the University's degrees, and that some Corporation teachers could be recognised as part-time University teachers for teaching in connexion with degrees or other qualifications in the Faculty of Applied Science and Technology of the University. It was also agreed that certain University professors should act

* Under the Education Act (Northern Ireland) 1947, capital expenditure incurred for the purposes of the Act by any local education authority is met 65 per cent. by the Exchequer and 35 per cent. by the rates of the whole of Northern Ireland, each authority's share being determined on the basis of the net annual value of its area.

as Directors of Studies in relation to non-University students, and that they should exercise general control of the laboratories and of the teaching arrangements for non-University courses.

8. The Ministry of Finance met in full the cost of erecting and equipping the new building, which became ready for occupation at the beginning of the academic year 1964/65. In the meantime the University in collaboration with the Corporation made a number of appointments under the new arrangements, including appointments to chairs of mechanical engineering, electrical engineering and light electrical engineering. Pending the provision of the new building, courses and research were conducted in temporary premises made available by the University and the College of Technology.

9. The numbers of students enrolled in degree courses in recent years are as follows :—

	1959/60	*1960/61*	*1961/62*	*1962/63*	*1963/64*
Electrical Engineering	140	167	185	185	186
Mechanical Engineering	110	127	134	134	140
Aeronautical Engineering	28	27	35	29	24
Total ...	278	321	354	348	350

The figures for electrical, mechanical and aeronautical engineering from 1959/60 onwards include a small number of sandwich degree course students.* The numbers of students enrolled in the two-year courses for Higher National Certificate are as follows:—

	1959/60		*1960/61*		*1961/62*		*1962/63*		*1963/64*	
	A1	*A2*	*A1*	*A2*	*A1*	*A2*	*A1*	*A2*	*A1*	*A2*
Electrical Engineering (including Power and Electronics)	75	53	89	76	96	73	118	77	135	90
	128		165		169		195		225	
Mechanical Engineering	213	108	213	136	258	108	201	144	213	135
	321		349		366		345		348	
Aeronautical Engineering	10	8	17	17	18	18	12	8	8	5
	18		34		36		20		13	
Totals	298	169	319	229	372	199	331	229	356	230
	467		548		571		560		586	

2(a). The sandwich degree course

1. The Belfast College of Technology had given consideration in 1958 to a proposal that application should be made to the National Council for Technological Awards for recognition of the four-year course in mechanical engineering as a course for the Diploma in Technology ; but the matter was

* Appendix III, 2(a): Paragraph 7.

not pursued as it seemed evident that a formal application to the Council would not succeed, mainly because of the division of the facilities between the Joint Authority building and the College of Technology building—the latter including a proportion of elementary work—and also because of the lack of hostel accommodation, the deficiencies in amenities for students and the inadequate opportunities for research by the staff.

2. The Belfast Education Committee as a result proposed that elementary work should be concentrated in the existing College building and that a new College of Advanced Technology should be provided which would supplement the Joint Authority building. It was to contain laboratories for production engineering, but not for electrical and mechanical engineering, and would have facilities for applied chemistry and physics in the expectation that it would be recognised by the University as part of the Faculty of Applied Science and Technology. It was also to provide for the professional training of technical teachers in engineering subjects and for courses in management and work study.

3. The Ministry of Education was concerned at the difficulty of fitting this proposed College into the Joint Authority framework and all the parties agreed that independent advice should be sought. The advice given was that this proposal would imperil the co-operation between Queen's University and the Belfast Corporation created under the Higher Technological Studies Act, would duplicate expensive facilities and would delay the establishment of sandwich courses leading to a qualification of a standard acceptable to industry.

4. Arrangements were made in 1957/58 and 1958/59 to enable students to embark at the College of Technology on a sandwich course in electrical or mechanical engineering, but the course was not formally recognised by Queen's University as a degree course until 1959. The course is a four-year course, in which the third and fourth years are the normal University courses taken by students of electrical and mechanical engineering. The College of Technology is responsible in the first and second years for the engineering courses, including a special course in engineering materials, machines and processes, and for ancillary work in mathematics, physics, chemistry and engineering drawing. The College also provides courses in liberal studies in the first and second years.

5. The following extracts taken from the Calendar of Queen's University for 1963/64* indicate the substance of the regulations governing the award of degrees to sandwich course students :—

> "(1) Special first year and second year courses for candidates who have been accepted under a sandwich training scheme with industry and who are matriculated students are given at the College of Technology. The third and fourth year courses in the scheme shall be the third and fourth year main courses in electrical or mechanical engineering of the University.
>
> (2) University examinations for sandwich courses shall be held in the first and second years.

* Queen's University 1963/64 Calendar: Page 407.

(3) The selection of students for a sandwich course shall be made, in collaboration with the Dean, by a Director of Studies appointed by the University for this purpose. All such students must be employed as special sandwich course apprentices in firms engaged on work directly related to the main subjects of the degree course. The Director of Studies must be satisfied that the firms will arrange suitable employment for the students during the periods spent in the works.

(4) The Director of Studies shall be responsible for all arrangements affecting sandwich course students in relation to the employing firms; the College of Technology shall appoint special tutors for sandwich course students, and the tutor system shall extend throughout the four year course.

(5) The course shall be divided into four periods arranged as follows:

First study period	...	1st October to 31st March
Second study period	...	1st October to 31st March
Third study period	...	8th October to 31st May
Fourth study period	...	8th October to 31st May

and no exemptions will normally be granted from any part of the course. The intervening periods shall be spent in industry under the approved scheme."

6. It will be noted that the study periods are six months in the first and second years, and about eight months in the third and fourth years. Since, however, the latter periods include the normal University vacations at Christmas and Easter, the total study time does not vary much in each of the four years. Between these study periods students must be engaged on suitable employment in the works of their sponsoring firms, but arrangements may be made for students to spend part of the works period in different firms with the object of widening their experience. Support for the courses has so far been confined to four industrial firms.

7. The numbers entering the sandwich degree course in electrical and mechanical engineering since its commencement have been as follows:—

Year	*Entry to Course*
1957/58	6
1958/59	16
1959/60	6
1960/61	9
1961/62	10
1962/63	8
1963/64	2

2(b). Trade Scholarships

1. Trade Scholarships were introduced by the Department of Agriculture and Technical Instruction for Ireland at the time of the first World War. After the establishment of the Government of Northern Ireland in 1921 the newly formed Ministry of Education assumed responsibility for making these awards within Northern Ireland; and they have been a significant feature of the system of technical education ever since. The object of these scholarships is to enable young men engaged in trade or industry to attend special

day courses in a technical college where the requisite equipment and other facilities are available, in order that they may obtain a highly specialised training through full-time study which should prove of value to them in their particular trades. In this sense their objective and method resemble the more modern sandwich course idea. In making awards the suitability and experience of applicants and their general education are taken into account. Applicants must normally have been engaged in trade or industry for one year, and must be released by their employers for the period of the course.

2. Originally the number of awards was limited to 60 a year, the courses being of about 32 weeks' duration with some 30 hours' instruction each week, but more recently no limit has been placed on the number of awards which may be made. At first the courses were all held in the Belfast College of Technology and the Lisburn Technical College, then known as the Belfast Municipal Technical Institute and Lisburn Municipal Technical School. During the second World War shorter courses—of some 21 weeks—were introduced and the number of awards doubled; these intensive courses were designed to meet the demands of the larger number of trades essential to the war effort. Advanced courses in engineering subjects were offered and these, known as Senior Trade Scholarships, attracted a higher rate of financial assistance than the original craft Trade Scholarships, which then became known as Junior Trade Scholarships.

3. Junior Trade Scholarships are normally awarded for courses leading to the examinations for Ordinary National Certificates, or to the Intermediate or Part I examinations of the City and Guilds of London Institute. Thus, for example, Junior awards may be given for the final stage of the Ordinary National Certificate course in engineering or building, or in the City and Guilds craft or technician courses in subjects such as engineering craft practice and carpentry and joinery. Senior awards enable students to take the final year of Higher National Certificate courses by full-time study, and also to take the Advanced examinations of the City and Guilds of London Institute. The period of full-time study enables those taking National Certificate courses to take additional endorsement subjects which may help to satisfy the exemption requirements of the various professional institutions. Junior Trade Scholarships are normally of five months' duration and Senior Trade Scholarships of approximately eight months' duration, the courses usually being held from September to May.

4. The Ministry of Education meets the cost of instruction and certain examination fees and, in addition, pays a maintenance allowance which is related to the normal wage level; where necessary travelling expenses also are paid.

5. The number of Trade Scholarships awarded has increased from 60 per annum between 1921/22 and 1939/40 to 207 in 1947/48 and 260 in 1963/64. This total of 260 in 1963/64 was made up as follows:—

Junior awards		Senior awards	
O.N.C.	Craft and technician	H.N.C.	Craft and technician
70	96	63	31

3. The proposed School of Applied Science and Technology*

1. Paragraphs 81 and 82 in Chapter IV explain that, outside the Joint Authority arrangement, a considerable body of advanced work remains with the Belfast College of Technology, and that a proposal was put forward to reorganise and develop this advanced work within a new School of Applied Science and Technology. The preceding section of this Appendix† refers to a similar type of proposal made in 1958 for the establishment of a College of Advanced Technology. The following is an outline of the direction of departmental development which was suggested for the new School.

Mathematics

In addition to teaching mathematics as a part of other courses, this Department would specialise independently in numerical analysis and data handling. A computer would form an essential part of the equipment and the Department would provide courses in statistical analysis, programming and allied subjects either as independent courses or in association with the Department of Management Studies.

Production Engineering

The range of present work would be extended and would include provision for part-time students released from industry as well as for full-time students. The course would lead to a College Diploma but as well might form part of an alternative course leading to a degree in mechanical engineering. Its scope would include metallurgy and properties of materials as well as precision metrology.

Physics

There would be development in the field of instrument maintenance, in automatic control and in methods for physical measurements, in view of developments in control methods especially in the chemical industry. Work in radio-isotopes and, more generally, in radio-physics and, in association with a Department of Applied Chemistry, in radio-chemistry would be furthered. The Department at present, with the Department of Mathematics, prepares students for the B.Sc. (Gen.) degree of the University of London in mathematics and physics; a possible development would be the provision of a degree in applied physics in the Faculty of Applied Science and Technology of Queen's University.

Applied Chemistry

This Department would expand to meet the requirements of a large and growing chemical industry. The objective would be a full-time course in chemical engineering to supplement existing four-year degree courses in chemical technology, in food science and in polymer and colour chemistry in the Faculty of Applied Science and Technology of Queen's University and the corresponding Higher National Certificate courses for students from industry. The Department would also continue to provide Higher National Certificate courses in applied biology.

* Proposed by the authorities of the Belfast College of Technology.
† Appendix III, 2(a): Paragraph 2.

Pharmacy

Provision would be made for an increase in the number of students taking a degree in pharmacy rather than the Diploma of the Pharmaceutical Society.

Textile Technology

In this field, in view of the importance of the textile industry in Northern Ireland, the increasing variety of fibres and the growing complexity of textile machinery, the Department would, in close association with the Departments of Physics and Chemistry, supply highly trained technologists.

Management Studies

As well as the existing part-time courses and specialised short courses in various aspects of management, a full-time or sandwich diploma course would be desirable. This would be supported by the maximum use of the language laboratory.

Structural Engineering and Building

This would be a new department growing out of the existing Department of Building and it would concentrate on the whole range of design as applied to buildings, roadways and public services; and especially on management as applied to major building projects. In this work, there would be close association with the Department of Management Studies.

Training of technical teachers

A department would be set up as the importance of training technical teachers in teaching methods is increasing, especially since day release is now making it possible for colleges to employ greater numbers of full-time staff. Teachers of technical subjects in secondary schools would also be given professional training especially as the school leaving age is to be raised to 16 years not later than 1970, and as a smooth transition from school to work for pupils in their final year will become of increasing importance. A variety of courses, part-time, full-time and sandwich, would be provided.

2. As responsibility for advanced non-University work in electrical and mechanical engineering remains with the Belfast College of Technology, it was proposed that the new School of Applied Science and Technology should take over this responsibility and should provide the appropriate staff, even although most of the actual teaching, as before, would be done in the Ashby Institute. If, however, courses in engineering and applied science continue to expand it might later be found expedient to dissolve the Joint Authority and to incorporate electrical and mechanical engineering departments for non-University students in the proposed School of Applied Science and Technology. In such an event, care would have to be taken to ensure that the close relationship between the College and University was not impaired and that the engineering studies in the University and in the School of Applied Science and Technology would be complementary.

3. The departments would all engage in research work, preferably in association with local industry.

4. Agreement between The Queen's University of Belfast and the City and County Borough of Belfast with regard to the promotion of architectural education

AGREEMENT MADE THE FIRST DAY OF JULY, NINETEEN HUNDRED AND SIXTY-THREE BETWEEN THE QUEEN'S UNIVERSITY OF BELFAST (HEREINAFTER CALLED "THE UNIVERSITY") AND THE CORPORATION OF BELFAST (HEREINAFTER CALLED "THE CORPORATION") WITH REGARD TO THE PROMOTION OF ARCHITECTURAL EDUCATION.

The University and the Corporation agree as follows:—

1. (*a*) The University shall institute a Chair of Architecture from a date to be arranged.

(*b*) The professor of architecture in the University shall also be head of the department of architecture at Belfast College of Art.

2. The professor of architecture shall be paid the appropriate professorial salary and the University and the Corporation shall each pay half of this salary, and half the relative insurance and superannuation and other appropriate payments, but this arrangement is subject to review in the light of experience.

3. The University shall provide office and tutorial accommodation for the professor of architecture and for University lecturers in architecture.

4. The University shall make available to the professor of architecture such grants for departmental purposes as are provided for all other heads of University departments.

5. The University shall institute a degree in architecture, probably to be called a Bachelor of Architecture degree and a higher degree probably to be called a Master of Architecture degree, and will seek recognition for these degrees from the Royal Institute of British Architects.

6. The University shall determine the faculties of which architecture shall be a subject.

7. (*a*) For the purpose of the co-operation in the furtherance of architectural studies in Northern Ireland the University and the Corporation agree to the institution of a Joint Board to be known as the Joint Board for Architectural Studies.

(*b*) The Joint Board shall consist of twelve members of whom six shall be appointed in writing by each party. The members appointed on the creation of the Joint Board shall hold office until the 31st May, 1964 and, subject to paragraph (*d*) hereof, members subsequently appointed shall hold office for twelve months beginning on 1st June following their appointment. Any member appointed by either party may be appointed for successive terms. An appointment made by either party may be revoked by that party at its discretion. In the case of any member appointed to the Joint Board who was at the time of such appointment a member of the Senate or of the Academic Council of the University or a member of the Corporation or any committee thereof, such persons shall cease to hold office on ceasing to be a member of Senate, Academic Council, Corporation or any committee

thereof as the case may be and shall be replaced by another member appointed by the appropriate party. The professor of architecture and the principal of the College of Art shall have the right to attend all meetings of the Joint Board. The Board shall have Joint Secretaries, one appointed by the University and one by the Corporation.

(*c*) The Joint Board may act notwithstanding a vacancy in its membership so long as the number of members is not reduced below six.

(*d*) A casual vacancy occurring amongst the members shall be filled by the party by whom the member causing the vacancy was appointed and for the unexpired term of office of that member.

(*e*) The Joint Board shall be deemed to be established when and so soon as both parties have made their first appointments under paragraph 7(*b*).

(*f*) The Chairman of the Joint Board for the period expiring on the 31st day of May following its establishment shall be a member of the Joint Board elected by the members or, in the event of a tie or if the majority of the members so determine, chosen by lot. For the year immediately following this period and for each succeeding year members shall elect as Chairman a member:

(i) appointed by the University, if the previous Chairman was a member appointed by the Corporation;

(ii) appointed by the Corporation, if the previous Chairman was a member appointed by the University.

The Chairman shall, if present, preside at all meetings of the Joint Board. In his absence from any meeting, the members present shall choose a chairman for that meeting from amongst themselves. At any meeting the member who is chairman shall have a second or casting vote.

(*g*) The Joint Board shall have power to regulate its procedure and the time and place of meetings. Five members shall form a quorum.

8. It shall be the duty of the Joint Board, subject to the provisions of this agreement:

(*a*) To promote courses in architectural studies. Courses leading to a degree of the University shall be subject to the approval of the General Board of Studies, the Academic Council and the Senate of the University. Other courses not leading to a degree of the University shall be subject to the approval of the Board of Governors of the College of Art.

(*b*) To nominate the professors of architecture, university lecturers in architecture, lecturers and teachers for courses other than university courses. The nomination of the professor and of university lecturers shall be subject to their appointment by the Senate of the University. University lecturers in architecture shall enjoy the same status, salary, superannuation, insurance, family allowances, privileges and general conditions of appointment including the required number of hours of teaching as apply from time to time to other university lecturers. Other teaching staff, and technical, domestic and other staff shall be appointed by the Corporation.

(*c*) To make recommendations to the Corporation in regard to the purchase and maintenance of equipment and supplies for teaching and research in architectural studies.

(*d*) To do all such other acts or things as appear to it necessary or ancillary to the due performance of any of the above-mentioned functions.

9. The Corporation shall provide, in the College of Art, accommodation for courses in architectural studies.

10. The University shall provide in respect of degree students such instruction as may be required other than that provided by the Corporation.

11. The Corporation shall provide library facilities for the Department of Architecture within the general library of the College of Art. In addition the Library facilities of the University will be available to the professor, university lecturers and degree students.

12. As regards students reading for a degree, the University functions in relation to:

(i) the acceptance and enrolment and the imposition and receipt of fees

(ii) the number, nature and duration of courses of study

(iii) the dates of terms and days and hours of lectures and other class requirements

(iv) the dates and conduct of examinations and the appointment of examiners

(v) the establishment, award and abolition of scholarships, prizes and other awards

shall be performed by the University, and as regards other students such functions shall be performed by the Board of Governors of the College of Art, and the Joint Board shall not perform any of these functions.

13. It is recognised that the professor of architecture and lecturers in architecture are permitted to undertake private practice and/or consulting work provided that this does not interfere with the full performance of their academic duties. Such practice or work shall not be undertaken on the premises of the University or of the College of Art.

14. The University shall pay the salaries, superannuation, insurance and other appropriate payments of or in respect of the professor of architecture and the University lecturers in architecture. The Corporation shall refund to the University such proportion of the salary etc. of the professor of architecture as may be due under paragraph 2.

The Corporation shall pay the salaries, wages, superannuation, insurance and other appropriate payments of or in respect of teaching staff (other than University lecturers in architecture) and technical and domestic staff employed in the College of Art.

The University shall pay to the Corporation and the Corporation shall pay to the University such sums as may, on the basis of student hours,

be attributable to the use of Corporation staff for University courses and to the use of University staff for Corporation courses respectively.

The University shall pay to the Corporation such proportions of other expenditure in respect of (i) premises provided by the Corporation (ii) equipment, supplies and services to the Department of Architecture provided by the Corporation as the aggregate of student hours in university classes bears to the total aggregate of student hours.

In witness whereof the University and Corporation have executed this agreement on the date and year mentioned.

Present when the Corporate Seal of the City of Belfast was affixed hereto:

Wm. Jenkins,
Lord Mayor.

John Dunlop,
Town Clerk.

SEAL.

Present when the Seal of The Queen's University of Belfast was affixed hereto:

Michael Grant,
Vice-Chancellor.

G. R. Cowie,
Secretary.

SEAL.

APPENDIX IV

MAGEE UNIVERSITY COLLEGE, LONDONDERRY

1. A note on the history of Magee University College

1. Magee College, though not opened until 1865, owed its establishment to a resolution of the General Assembly of the Presbyterian Church in Ireland, passed more than twenty years earlier, to the effect that it was "desirable and necessary for this Church to have under its entire control and superintendence a seminary for the education of candidates for the Christian Ministry in connexion with the General Assembly".

2. With the opening of the Belfast Academical Institution in 1814, and the acceptance by the General Assembly of the "General Certificate" of its Collegiate department as equivalent to a degree,* candidates for the ministry of the Presbyterian Church were enabled to obtain their training in arts in Belfast. Until the early years of last century candidates for the ministry of that Church normally went to Scotland for their studies. But in 1841 there was a disagreement between the Assembly and the Governors of the Institution, who had appointed to some of its chairs men to whose theological beliefs the Assembly strongly objected; and, as a result, the Assembly ceased to recognise the General Certificate and eventually withdrew its students completely from attendance at lectures at the Institution. The Assembly then considered establishing a college under its own control, at which a "complete" course in both arts and theology could be provided. Eventually an approach was made to the Government for aid in the erection and endowment of such a college, which would nevertheless be open to all students desiring to pursue a university course in arts. The Government, which had already decided to found the three non-sectarian Queen's Colleges, did not accede to this request.

3. Opinions then divided in the General Assembly, some considering that candidates for the ministry could pursue their arts training at the new Queen's College in Belfast, the Assembly providing only a theological college, and others supporting the original scheme for a "complete" college. While this debate was continuing, there occurred in 1846 the death of Mrs. Magee, the widow of a Presbyterian clergyman, who in her will left the sum of £20,000 towards the establishment of the contemplated "complete" college. There was considerable support in the Assembly for a proposal to apply Mrs. Magee's bequest towards the cost of erecting a purely theological Assembly's College in Belfast, but a Court decision was obtained by the trustees of the bequest, who had power to determine where the college to which it was to be devoted should be established, that, under the terms of Mrs. Magee's will, the bequest must be devoted to the establishment of a college containing an arts faculty. The Assembly, however, proceeded with the plan to establish a theological college in Belfast and the Assembly's College opened in 1853.

* Appendix II, 1: Paragraph 2.

4. Meanwhile, Londonderry had been selected as the site for the "complete" college, apparently in the hope that such a college, if not near the new Queen's College, might receive Government aid. Further bequests and subscriptions were received, notably from the Reverend Richard Dill, the Honourable the Irish Society and the citizens of Londonderry; and the College, under the name of the Magee Presbyterian College, was formally opened in 1865, the Theological Department with three chairs and the Arts Department with four chairs. All trustees, after the three original trustees named in Mrs. Magee's will, were to be appointed by the General Assembly.

5. Earlier hopes that the College might be affiliated to the Queen's University in Ireland and that its arts students might thus be admitted to degrees of the University were not realised, but the General Assembly recognised the Certificate awarded by the College as equivalent to a university degree, so that it was able to offer complete training to candidates for the ministry of the Presbyterian Church. In its primary function of training candidates for the ministry the College was, therefore, not seriously weakened by the fact that attendance at its classes could not lead to a university degree; but on the arts side, where it had been hoped to provide university education which might also attract students preparing for other walks of life regardless of denomination, this lack of university connexion was undoubtedly a very serious handicap.

6. This impediment was removed in 1879 when the Queen's University in Ireland was dissolved and the Royal University of Ireland took its place. This benefited Magee College for the same reason that it had an adverse effect on the Queen's Colleges—namely that the Royal University was an examining body only and students could present themselves for its examinations and degrees no matter where they had been studying. Magee College students were therefore, for the first time, in the same position as students of the Queen's Colleges.

7. This arrangement came to an end under the Irish Universities Act, 1908 with the dissolution of the Royal University and the establishment of the National University of Ireland and the Queen's University of Belfast. The Irish Universities Act made no continuing arrangement for the award of degrees to Magee College students, nor did it make any provision whereby Magee College could become a constituent college either of the new National University or of Queen's University, although these Universities were empowered under the Act and their respective Charters to recognise other colleges offering a university type of education. The authorities of Magee College, however, decided not to approach Queen's University, but turned instead to the University of Dublin (Trinity College) and formed an association under which Magee College students were granted facilities for subsequent graduation at Trinity College. This connexion with Trinity College, Dublin, which has been maintained without interruption since 1909, is not, however, of the closely integrated character which would have characterised affiliation under the conditions of the Queen's or National University Charters, and under it Magee College has not been able to offer complete degree courses. The name of the College was changed in 1911 to the "McCrea Magee Presbyterian College, Londonderry", in recognition of additional bequests.

8. In 1910 the College had 81 students, compared with about 600 at Queen's University, an increase of 22 over the 1901 total; but by 1935 the total had risen only to 137. In the years immediately after the first World War Magee College found itself in financial difficulties, and in 1922 the General Assembly decided that two of the three chairs in the Theological Department should be transferred to the Assembly's College in Belfast, Magee College retaining its endowments in full. In consequence Magee College became unable to offer either a complete arts course or a complete theological course for, with the transfer of the two theological chairs, intending ministers were able to complete at Magee College only one year of the three-year divinity course prescribed by the General Assembly.

9. When a separate Government was set up in Northern Ireland, the College again put forward a claim for assistance from State funds but these requests were refused for two reasons. First, the Government maintained that no assistance could be given to Magee College while it continued to be associated with Trinity College, Dublin, which was in a part of Ireland over which the Northern Ireland Parliament had no jurisdiction, and that an arrangement would have to be made with Queen's University before Magee College could be given a Government grant. It also held that Magee College was still primarily a sectarian institution, and that to give a grant to such an institution would constitute a violation of the Government of Ireland Act, 1920, which prohibited the Parliament of Northern Ireland from making a law "so as either directly or indirectly to establish or endow any religion . . . or give a preference, privilege, or advantage . . . on account of religious belief or religious or ecclesiastical status". In conformity with the Government's suggestions discussions took place between representatives of Magee College and Queen's University, but proposals for an association between the two institutions made no progress.

10. After an amendment in 1934 to the Scheme governing the application of the endowments of the College, the control of the General Assembly over the arts side of the College (which thereafter became known as "Magee University College, Londonderry") was relaxed and thenceforth only six of a possible maximum of fifteen trustees were appointed by the General Assembly. The Government were advised that they could now give a grant to the Arts Department without violating the Government of Ireland Act; and also decided that the association of Magee College with Trinity College, Dublin, need no longer be considered a barrier to financial assistance. By the University and Collegiate and Scientific Institutions Act (Northern Ireland), 1938 an annual grant of £2,500 was provided for the College, to be applied exclusively to the Arts Department, and the Minister of Finance thereupon appointed two additional trustees in accordance with the provisions of the 1934 Scheme.

11. During the second World War the College premises were requisitioned for a period of almost four years. Classes were held in the Model School, Londonderry, but this disruption caused a considerable setback. When in 1944 the Government of Northern Ireland invited the University Grants Committee to give advice on the financial needs of Queen's University, Magee College applied to the Ministry of Finance for an increased grant. The Minister of Finance invited the University Grants Committee to investigate the College proposals, but the Committee declined.

12. The Ministry again suggested the formation of an association between Magee College and Queen's University as a preliminary to further consideration of the request for assistance, and eventually, in 1951, a relationship similar to that between the College and Trinity College, Dublin, was reached whereby Magee College became "recognised" by Queen's University, and students were enabled to take the first year of the Queen's University Arts degree course in certain subjects at Londonderry, completing the course in Belfast. This development was preceded by recommendations received from Committees under the Chairmanship of Colonel W. D. Gibbon and Sir James Acheson which reported to the Minister of Education and the Prime Minister in 1948 and 1949 respectively*, and in consequence the Magee University College, Londonderry (Northern Ireland) Act, 1953 was passed. This Act forms the basis of the present constitution of the College, which is described briefly in Paragraphs 87 and 88 in Chapter IV.

13. By separating the University College and the Theological College completely the 1953 Act opened the way to expansion of the University College. In the intervening years from 1953/54 the enrolment climbed slowly from 72 full-time students to 90 in 1957/58, more rapidly to 153 in 1961/62 and to 245 in 1963/64. Grants towards recurrent expenditure have increased from £19,500 in 1953/54 to £62,900 in 1963/64. As well, the Government has advanced grants totalling about £38,000 towards various capital projects including an extension to the library, the purchase and adaptation of houses as student hostels and various improvement and maintenance works. Current plans include the building of additional lecture room space and the equipping of a language laboratory.

2. Entrance requirements

The following extract is taken from the Calendar of the College for 1963/64.† It relates to those students of the College who are proceeding to degrees of the University of Dublin. For those proceeding to degrees of the Queen's University of Belfast the entrance requirements are the same as those for students entering Queen's University direct.

"1. To qualify for admission to a degree course a candidate must submit evidence of having passed a recognized examination in English Language and in five other subjects approved by Faculty and must satisfy certain additional requirements.

2. Subjects approved by Faculty as qualifying a candidate for admission to a degree course are, in addition to English Language:

(*a*) Latin, French, German, Greek, Hebrew, Irish *or* Scottish Gaelic, Italian, Russian, Spanish, Welsh;

(*b*) Mathematics, Pure Mathematics *or* Applied Mathematics, Biology (provided neither Botany nor Zoology is chosen), Botany, Chemistry,

* Reports of Committees on the possible development of Magee University College. Cmd. 275. Belfast H.M.S.O., 1950. This historical note is derived from the more detailed account of the history of the College up to 1948, given in the Report of Sir James Acheson's Committee.

† Magee University College 1963/64 Calendar: Pages 21–23. Additional course requirements for those taking honor courses are not included in this extract.

Economics, English Literature, Geography, Ancient History, Modern History, Music, Physics, Zoology.

In given cases Faculty may approve other subjects as qualifying for admission.

3. A candidate must include among the subjects offered under the terms of these requirements either Latin or Mathematics. If Latin is offered, at least one subject listed under 2(*b*) above must be included. If Mathematics is offered, at least one subject under 2(*a*) above must be included. Latin and Mathematics may be offered together.

4. Examinations recognized as conferring qualification for admission to a degree course, subject to the foregoing requirements, are:

(*a*) The Northern Ireland General Certificate of Education or Grammar School Senior Certificate, or the General Certificate of Education of any English or Welsh examining board, provided that at least three approved subjects are passed on one occasion and that two passes are obtained at Advanced level in approved subjects;

(*b*) The Leaving Certificate of the Department of Education of the Republic of Ireland, provided that three subjects are passed with honours; the subject 'English' may be credited as both 'English Language' and 'English Literature', subject to the limitation that a pass with honours in English may be counted as one only of the three required passes with honours (see also paragraph 9 below);

(*c*) The Scottish Certificate of Education or Scottish Leaving Certificate provided it qualifies the holder for admission to a Scottish university;

(*d*) The School Certificate or Higher School Certificate of the University of Cambridge Local Examination Syndicate or of other approved boards examining overseas, provided that at least three approved subjects are passed on one occasion and at least two passes are obtained at principal standard in the Higher Certificate examination or equivalent; overseas candidates may offer a pass in their native language, if other than English, in place of a pass in a language, other than Latin, listed under 2(*a*), provided that a pass at credit level or higher has been obtained in English Language.

5. Faculty, on such conditions as it may determine in given cases, and subject to the requirements set out in paragraphs 1–3 above, may recognize for purposes of admission the examinations of professional or other public bodies.

6. For a candidate whose qualification includes all necessary passes at Advanced level but is deficient in some other respect, Faculty may prescribe a further qualifying test or tests. Such tests would normally be held in June and September and may be held at other times.

7. A candidate for admission whose age is not less than 23 on 1 June in the year of application may apply to Faculty to be considered as a candidate of mature age. For such a candidate Faculty may prescribe a qualifying test or tests.

8. Faculty may grant to candidates for admission such recognition as it thinks fit in respect of courses taken and examinations passed by them at other universities or university colleges.

9. *Transitional paragraph:* Until 1964 inclusive, candidates resident in the Republic of Ireland will be required to have a minimum of two passes with honours in Leaving Certificate."

APPENDIX V

TRAINING COLLEGES

1. An outline of the development of general training colleges

1. In 1922, when the Ministry of Education for Northern Ireland came into being, professional training facilities existed only for teachers serving in what were then called national* schools, later renamed public elementary* and, from 1948, primary schools. Although there were several training colleges in Ireland catering for the needs of these schools, only one—St. Mary's Training College, Belfast, opened in 1900 to train Roman Catholic women—was in Northern Ireland. To undertake the urgent task of securing a regular supply of teachers, and to make arrangements for their preliminary education and training, the Ministry, in May, 1922, appointed a body known as the Committee for the Training of Teachers for Northern Ireland, under the chairmanship of the Rt. Hon. H. M. Pollock, D.L., M.P., Minister of Finance, a body which continued to function until 1931.

2. In 1923 the Committee negotiated an agreement with St. Mary's Training College, Belfast, by which, on mutually satisfactory terms, that College was enabled to continue its function of training Roman Catholic women students. The Committee also settled down quickly to its main task—that of establishing a college capable of supplying the primary schools with an adequate supply of trained teachers—and, in co-operation with Queen's University and the Belfast Technical Instruction Committee, Stranmillis Training College was founded in 1922. In October of that year a temporary scheme was brought into operation which, as events proved, was to require but little modification for a considerable time. Pending the erection of a permanent building in the grounds of Stranmillis House, which the Government purchased for the purpose, premises were found in the University and the Belfast College of Technology†; and instruction was provided, partly by the staffs of these institutions, and partly by teachers appointed by the Committee. Residential quarters for men students were secured, first in Royal Terrace, Lisburn Road, and then in Hampton House, Balmoral Avenue (Balmoral Hall); and, for women students, in Stranmillis House and, when this proved inadequate, in bungalow hostels erected in the grounds. In 1929 the permanent college building was ready for occupation.

3. Stranmillis Training College, as the new establishment was called, was interdenominational and until 1925 was attended by Roman Catholic men, as day students, as well as by Protestant men and women. This arrangement was, however, considered unsatisfactory by the Roman Catholic Church and, on the advice of the Committee for the Training of Teachers, the Ministry opened negotiations with the Board of Education in London;

* For the sake of convenience, these schools are referred to in this appendix as primary schools.

† At that time known as the Belfast Municipal Technical Institute.

and an agreement was made under which Roman Catholic men could be trained at St. Mary's Training College, Strawberry Hill, Middlesex. Roman Catholic men continued to go to Strawberry Hill until the outbreak of war in 1939. In 1945 the authorities of the Strawberry Hill college found themselves unable to resume the arrangement, and it was agreed that a separate department for men students should be established in St. Mary's Training College, Belfast. This arrangement came into force in September, 1945. Until the summer of 1947 both men and women were trained in St. Mary's Training College, but by that time the increasing number of men was limiting seriously the accommodation for women students, and the men were therefore transferred to Trench House, a property on the outskirts of Belfast. A reconstruction and building programme at Trench House was completed in September, 1961, and the new college, since known as St. Joseph's Training College, was given independent status. To meet the greatly increased numbers of students in attendance, both Stranmillis and St. Mary's Training Colleges have been extensively enlarged since 1945.

4. Akin to the permanent general colleges in that its chief aim was to provide teachers for primary schools was the Emergency Training College for ex-service personnel, opened in May, 1946 at Larkfield, near Dunmurry, a few miles from Belfast. The establishment of such a college was decided on, partly from a desire to recruit into teaching some of the suitable men and women who were being demobilised from the armed services, and partly because it was realised that even the increased numbers of students passing through the ordinary colleges would be inadequate either to meet the grave shortage of teachers occasioned by the slowing down of training during the war years, or to provide the increased numbers needed if the rise in the school population was to be catered for and the extensive reforms contemplated by the Ministry carried through. The college continued in operation until November, 1949.

Sources of recruitment

5. In 1922 the chief source of recruits for the general training colleges was what the Lynn Committee* called " apprentice teachers ". These were of two kinds—monitors and pupil teachers—the former being the more important. In 1843, when the Commissioners of National Education announced the appointment of their first monitors, the need for a supply of trained teachers was great, and the only source from which they could be obtained was their own (primary) schools, the secondary schools† of the time being small, relatively few in number and not attended by pupils likely to be attracted to the position of primary school teacher. Hence developed the system by which the ablest of the primary school pupils, lacking the inclination and often the means to proceed to a secondary school, could, by passing a competitive examination conducted by Commissioners' Inspectors, secure appointment as monitors in specially selected primary schools at a modest salary. Boys had to be not less than 14 years of age and girls not less than 15. As monitors they spent either

* Departmental Committee on the Educational Services in Northern Ireland. Cmd. 6 and Cmd. 15. Belfast H.M.S.O., 1922 and 1923.

† Until the creation of the secondary intermediate schools by the Education Act (Northern Ireland) 1947, secondary schools provided, in the main, courses of an academic type akin to those which now characterise the secondary grammar schools.

three or four years according to age, during which time they pursued their general education under the guidance of the teachers of the schools in which they were serving, and were trained in the rudiments of their profession. Admission to a training college was by the competitive Queen's or King's Scholarship Examination, which they took during their final year as monitor.

6. Until 1878 the Commissioners of National Education had no source of supply for their schools apart from the monitors whom they themselves appointed. In that year, however, the Intermediate Education (Ireland) Act inaugurated an educational reform which, in time, was to alter the whole basis on which the recruitment of teachers rested. By this Act was established the Intermediate Education Board for Ireland, a body whose chief function was to arrange for the holding of annual examinations throughout the country, on the results of which per capita payments were made to schools which had entered successful pupils, and prizes and exhibitions awarded to the pupils themselves. This financial inducement was sufficient to encourage the establishment of secondary schools where none had existed before, until, in time, the country became reasonably well covered with a network of institutions of varying origin, size and efficiency. From these schools came an alternative source of recruitment for primary teaching which was tapped by the establishment of what were called pupil teacherships. These were offered to pupils who had proved their academic worth by passing " with honours " one or other of the examinations conducted by the Intermediate Board and were able to furnish satisfactory evidence as to health and character. They were appointed for either two or three years, according to their age and the standard of the examination passed, and were admitted to the training colleges by the same Queen's or King's Scholarship Examination as was taken by the monitors. During their period as pupil teachers they divided their time, for the most part, between a selected primary school which they attended for practice in teaching and a neighbouring secondary school where their general education was continued. During the period 1923–1925 about four times as many monitors as pupil teachers were appointed annually and monitors and pupil teachers comprised about three-quarters of the total admissions to training.

7. In the years preceding the establishment of the Government of Northern Ireland the system of recruitment to training colleges had attracted a considerable volume of criticism. The substitution of the Ministry of Education for the Dublin based bodies which had hitherto controlled the various branches of education, and the increased flexibility promised by the change, provided a favourable opportunity for a thorough review of the entire question ; and this was carried out by the Lynn Committee. This Committee fully endorsed the complaint often levelled against the system in force, viz. that " the time devoted by monitors and pupil teachers to actual teaching was excessive, and militated against the continuation of their general education " with the consequence that " candidates for admission to training colleges are in many cases deficient in general education to such an extent that a disproportionate amount of their time in training has necessarily to be spent in studying the ordinary school subjects instead of being given to that professional instruction which properly constitutes the work of a teachers' training college ". While maintaining that some

form of apprenticeship was needed to provide assurance that a candidate for training had some aptitude for his future profession, they declared that the existing system which perpetuated two distinct forms of apprenticeship was " unsound and invidious ".

8. They recommended, therefore, that the appointment of monitors should cease and that, instead, there should be two classes of pupil teacher, *junior and senior*. Junior pupil teachers were roughly the equivalent of the former monitors in that they were to be recruited at something like the same age from pupils in attendance at primary schools. They were to be appointed in the first instance for two years, and were to be eligible for appointment as senior pupil teachers if at the end of that time they passed the Junior Certificate Examination. Holders of this Certificate who had not been junior pupil teachers were also eligible for appointment as senior pupil teachers. Senior pupil teachers were to be appointed for two years. All pupil teachers were as a rule to attend a secondary school to further their general education, and during their last two years were to spend a certain period each week teaching in a primary school. Admission to training was, as before, through competitive examination. The Ministry accepted these recommendations in principle and carried them out gradually between 1923 and 1929 after which no further appointments of monitors were made. Running through the entire chain of administrative changes of this period and after can be seen one consistent aim—to eliminate, as far as possible, all distinctions between those pupils who intended to become primary teachers and the remainder of the secondary school population.

9. In 1929 a further change was made in the regulations governing the appointment of junior pupil teachers: the minimum age limit for appointment was reduced to 12–14 years so as to bring them more into line with the holders of ordinary grammar school scholarships. The period of appointment had, therefore, to be lengthened from two years to three. Furthermore, instead of a short period weekly, senior pupil teachers were now to spend an entire month each year in an approved primary school. The regulations were again changed in 1939 so as to assimilate still more closely the status of the pupil teacher to that of the ordinary secondary school scholarship holder. The minimum age was further reduced and consequential changes made in the length of the course, the written undertaking to become a primary teacher was abolished and the regulation annulled by which a *senior pupil* teacher was obliged to undergo training in practice of teaching in a primary school. In 1947 the Gibbon Committee* was able to recommend that, in view of the arrangements for the award of grammar school scholarships contained in the 1947 Education Act, the system of pupil teacherships had outlived its usefulness and should be abolished. The recommendation was accepted. From then onwards the main source of recruits for the general training colleges has been pupils of Northern Ireland grammar schools who have reached a satisfactory standard in the Senior Certificate Examination. Since 1963 the educational requirements have been stated in terms of the General Certificate of Education.

* Committee on the Recruitment and Training of Teachers. Cmd. 254. Belfast H.M.S.O., 1947.

10. While this remains the normal means of entry, the Ministry of Education has endeavoured, from time to time, to tap other sources which might yield a supply of suitable candidates. These have proved in the main to be two. The first is the increasing number of pupils from technical and secondary intermediate schools who hold the General Certificate of Education in an appropriate range of subjects. Recruits from this source have not been numerous, but their advent has been welcome because of the skill shown by many in subjects such as woodwork and metalwork. Since 1963 this group has been merging with the main stream entry from grammar schools. The second additional source of supply consists of older men and women with adequate qualifications who, for one reason or another, did not apply for admission to training at the usual time. The largest single body of such people were the ex-service personnel trained at Larkfield Emergency Training College between 1946 and 1949, whose suitability was ascertained by interview, supplemented, where necessary, by a short educational test. This, of course, was a special case. To attract applications from older men and women who might from year to year feel attracted to the teaching profession, a Special Entry category of candidates was instituted in 1945 and in 1961/62 an upper age limit of 30 was removed. The experiment of admitting older men and women to training has proved successful. Once the initial academic rustiness has been removed they have shown themselves, for the most part, well able to compete on equal terms with their younger colleagues ; and, as might have been expected, they have proved exceptionally enthusiastic, assiduous and responsible students.

Number and quality of recruits

11. In mid-nineteenth century Ireland, where facilities for grammar school education were sparse and provision for the transfer of able children from one type of school to another meagre, the monitorial system had most of the virtues claimed for it. It did, indeed, help children from poor families to an education, and ultimately to a position which they could not have otherwise obtained, and it produced an adequate and steady flow of candidates for training. The spread of secondary schools after 1878 did not lessen this flow since, even then, most children, however gifted, completed their education in the primary schools. It also, however, gradually made evident the extent to which the part-time education given to monitors, often in small and remote schools, fell short of what they would have received in an efficiently conducted secondary school.

12. In 1923, therefore, when the Lynn Committee considered the matter, the chief complaint levelled at candidates for admission to training colleges was not that they were so few but that, for the most part, they were so badly educated ; and the principal object of the Committee's recommendations was to ensure that all intending primary teachers should have " a good education of a secondary [i.e. grammar] type ". These recommendations had the desired effect, and as early as 1924/25 the Committee for the Training of Teachers noted an improvement in the quality of candidates for training, though they remarked, in 1925/26, that few men of ability were entering Stranmillis Training College. The new conditions for pupil teacherships, combined with improved conditions of service, produced a

considerable increase in the number of applicants for King's Scholarships from 403 in 1923 to 650 in 1928. During the same time there was a rise in the school population, possibly because of the increased efficiency with which the school attendance regulations were being enforced; and, in consequence, the annual intake to the colleges remained high, and even increased slightly towards the end of the period.

13. After 1928 a number of factors combined to make primary teaching less attractive, and the number of applicants for training declined sharply and continuously until 1938. A fall in the number of births, which had begun about 1925, began to affect the schools in 1929 and 1930. Fewer posts were available and there was a certain amount of unemployment among teachers, even though, in successive years from 1929 to 1938, the intake of students into the colleges was reduced from 181 to 110. Even when teachers were in employment, the conditions in which some of them had to serve were not such as to attract entrants to the profession. One unforeseen defect in the pupil teacher system was the very uneven distribution of awards. A disproportionately high number of junior pupil teachers was recruited from the larger primary schools, and some areas were very poorly represented. Out of about 80 awards made in 1933, Counties Armagh, Fermanagh and Tyrone obtained only one each, and County Down only five. A further defect in the scheme was that a considerable proportion of the secondary schools, including some of the largest, showed little interest in securing senior pupil teacherships for their pupils. As a result of this uneven distribution of awards, it frequently happened that primary schools in the less productive areas were staffed by teachers not belonging to the district; and often these schools were among the least attractive—small, badly housed and equipped, and located in remote, rural areas where suitable lodging accommodation was difficult to find and where young teachers were lonely and deprived of congenial company. The resulting uncertainty and dissatisfaction had an adverse effect on recruitment, and this effect was increased still further as returning prosperity in the 1930s opened up opportunities which, for men especially, were economically more attractive than primary school teaching.

14. Although the total number of teachers in training was reduced considerably in the ten years or so before the outbreak of war in 1939, the effect of this on the quality of the entrants was not as marked as might have been supposed. There is no repetition of the type of criticism prevalent when the Lynn Committee published its Report. So far as Roman Catholic men and women were concerned, the fact that competition for entry remained keen meant that, even with fewer applicants to choose from, there were always sufficient candidates of good ability to fill the places available. The slackening of demand for admission to Stranmillis Training College was more marked and there were complaints about the quality of some of the entrants but, nevertheless, a good standard of ability was maintained. This was so because, right throughout the period, appointments to pupil teacherships proved popular and were so keenly competitive that those who were successful had to be children of good academic ability. Not all these pupil teachers, of course, presented themselves for admission to Stranmillis Training College, but sufficient did so, and were accepted, to form a nucleus of able students.

15. The period after 1945 has been one of unparalleled expansion for all the general training colleges, an expansion which there is no reason to think has stopped. In the primary schools many teachers were required for the vacancies left unfilled during the war years, to cope with the rapidly rising school population and to enable a reduction in the size of classes to be made. Then, with the passing of the 1947 Education Act, came the necessity to provide not only courses of a more diverse and specialised kind but also a greatly increased number of teachers to staff the new secondary intermediate schools. Only a massive expansion of the teacher training programme could meet the occasion. Fortunately, improved salary scales, the ready availability of positions, the diversified courses offered by the colleges and the prospect of working in the new secondary intermediate schools all combined to make teacher training attractive; and the supply of applicants increased accordingly. From 756 in 1946 and 1,093 in 1947, it rose to 1,999 in 1961 but dropped to 1,799 in 1963. From these candidates the intake was increased from 310 and 350 in 1945 and 1946 to 538 and 559 in 1961 and 1963. But expansion since 1945 has not always and in every way kept pace with the rising requirements of the developing educational services. For many years it was often difficult to staff satisfactorily small primary schools in rural areas, and from the secondary intermediate schools there were unsatisfied demands for teachers with particular qualifications.

Courses and curricula

16. Although the training colleges of to-day bear little resemblance to their counterparts of forty years ago in the scope and variety of the courses they provide, it remains true that the general aim has remained unchanged—to broaden and deepen the education of the students and to give them sufficient professional training to enable them to enter the schools competent and knowledgeable in their work. It has not always been easy to reconcile these two aims: the Lynn Committee believed in 1923 that the colleges had to undertake work that should have been done in school, and the same complaint is still heard. In the development of courses at the training colleges the passing of the 1947 Education Act is something of a watershed; and it will be convenient first to describe conditions as they existed between 1923 and 1947, and then to deal with subsequent development.

17. The earlier period 1923–1947 was, on the whole, a reasonably static one. The colleges had before them the traditional aim of turning out well educated, efficient, all-purpose primary teachers, along the lines laid down by the Committee for the Training of Teachers. Students were divided into two classes, A and B, Class A being composed of those accepted as matriculated students by Queen's University and Class B comprising the remainder. For all, the minimum period of training was two years. During that time their general education was to be deepened and widened by lectures on a wide range of subjects, including most of those they were likely to have to teach in the primary schools. Professional training was given by means of instruction in the principles and methods of education and by supervised teaching practice in primary schools. Class A students were given special lectures in mathematics, English, and history, so that, by the end of their training college course, they could, if successful, have taken four—three after 1926/27—of the eight courses necessary for a degree at

Queen's University. At Stranmillis Training College these lectures were, ultimately, given by members of the training college staff; students from St. Mary's Training College attended the appropriate University lectures. Apart from the distinction between A and B students, and between men and women over certain portions of the curriculum, the course was largely an undifferentiated one, the general aim being to turn our primary teachers who were well-informed generally and capable of giving instruction in the entire range of school subjects at any level where they were likely to be employed.

18. Class A students who had taken their University subjects successfully and who wished to complete a degree were allowed to attend the University for a further period of two years. During this time they were required not only to complete the degree course but also to attend lectures given in the University Department of Education and to sit for the examinations leading to the Higher Diploma in Education. For the students attending St. Mary's Training College, Strawberry Hill, the arrangements were somewhat different. The normal course lasted two years and was on similar lines to that provided in Northern Ireland. But for suitably qualified students a three-year course was provided which enabled them to complete an external degree course in arts of the University of London as well as the normal training college course. In its early years, the Committee for the Training of Teachers was disappointed at the small proportion of Class A students who opted to complete the degree course. The number increased later, but was never large. When positions were easy to find, two years' seniority and full salary was often considered more advantageous than a degree obtained by full-time study.

19. By the mid-1940s it was generally accepted that, if students were to be adequately educated and thoroughly trained, without their being over-burdened with classes and unduly deprived of opportunities to cultivate their personal interests, a two-year course was not long enough. At the same time, the White Paper* which led to the 1947 Education Act proposed that children should receive an education suited to their different ages, abilities and aptitudes. The Gibbon Committee showed that, as well as the general purpose primary teachers whom the colleges had been producing, there would be required in future, for the primary schools, specialists for nursery and infant classes and for backward children and, for the new secondary intermediate schools, teachers specially trained to give instruction in a wide variety of subjects, both academic and practical. In 1948, therefore, the primary school course was lengthened to three years and students intending to teach in secondary intermediate schools were required to take a fourth year. There was also at the same time a complete remodelling of the type and content of the courses provided. The arrangements† then introduced proved to be well adapted to meet the situation and, though considerably altered in detail from time to time, they have since remained fundamentally unchanged. Students are allocated on entry to one or other of these courses on the basis of their own wishes and their educational records. The first year curricula, though not identical, are sufficiently similar to make it possible for students to transfer from one course to another at the end of the first year, if this is found to be necessary.

* "Educational Reconstruction in Northern Ireland". Cmd. 226. Belfast H.M.S.O., 1946.
† Chapter IV: Paragraph 107.

20. Courses A and C*, though each has its own slight bias, are in many respects similar, and continue, in an up-to-date form, the traditional work of training colleges. Virtually the entire range of primary school subjects is covered. For the furtherance of their personal education all students study, for three years to approximately first year university standard, English or mathematics or geography or history. Professional training is provided by means of lectures in the theory and practice of education and by supervised teaching practice in selected schools. During the first three years of Course B* the students are taught a range of subjects only a little less wide than that laid down for those engaged in Courses A and C. The student's own education is furthered in the same way and professional training is on similar lines. In addition, each student must pursue from the beginning of the course the subject in which he intends to specialise, the fourth year being almost entirely devoted to this subject. The colleges also provide a one-year course for postgraduate students and a one-year course for serving teachers who wish to specialise in the teaching of backward children.

21. The combined University and training course† was revived after an interval during the war years but with a somewhat different organisation. The duration of the course is unaltered at four years, but under the new arrangement the students spend the first three years almost entirely on University work. The fourth year of the course is spent almost entirely on professional training. These students do not have an unrestricted choice of University subjects nor have they always relished the rather tenuous control exercised over them by the training college authorities during the first three years. The numbers taking this course have fallen significantly since 1961.

2. Entrance requirements

REGULATIONS, DATED 9TH APRIL, 1964‡, MADE BY THE MINISTRY OF EDUCATION UNDER THE EDUCATION ACTS (NORTHERN IRELAND) 1947 TO 1963.

The Ministry of Education (hereinafter referred to as "the Ministry") in pursuance of the powers vested in it by Sections 59 and 112 of the Education Act (Northern Ireland) 1947, and of all other powers enabling it in that behalf, hereby makes the following Regulations:

1.—(1) These Regulations may be cited as the Training Colleges (Admission of Students) Regulations (Northern Ireland) 1964.

(2) These Regulations shall come into operation on 1st August, 1965.

2. The Training Colleges (Admission of Students) Regulations (Northern Ireland) 1962 are hereby revoked.

* Chapter IV: Paragraph 107.
† Chapter IV: Paragraph 110.
‡ S.R. & O. (N.I.) 1964, No. 53.

3. In these Regulations—

"candidate" means an applicant for admission as a student to a course of teacher training in a training college;

"ordinary entry candidate" means a candidate who is not less than 18 years of age and is under 21 years of age on 1st October in the year in which admission is sought;

"special entry candidate" means a candidate who is 21 years of age or over on 1st October in the year in which admission is sought;

"training college" means a college for the training of teachers conducted by or on behalf of the Ministry, or a voluntary college in receipt of grants from the Ministry under the Training Colleges (Grant Conditions) Regulations 1956; and "general training college" means a training college providing courses of general training for primary, secondary and special school teachers.

4. The number of ordinary entry candidates and the number of special entry candidates to be admitted each year to each training college shall be determined by the Ministry after consultation with the principal of the college.

5. A candidate shall be required to satisfy the conditions prescribed in the Schedule.

6.—(1) A candidate shall make application in such form and by such date as the Ministry may from time to time determine and shall pay any fee chargeable and shall furnish the Ministry with all such information as it may require.

(2) A candidate shall furnish the names and addresses of two persons to whom reference may be made by the Ministry as to the suitability of the candidate. In the case of an ordinary entry candidate one of these persons shall be the principal of the school which the candidate last attended.

7. Each student admitted to a training college shall be required to satisfy the Ministry of his health and physical capacity for teaching.

Sealed with the Official Seal of the Ministry of Education for Northern Ireland this 9th day of April, 1964.

A. C. Williams,
Secretary.

(L.S.)

SCHEDULE

1. Except as otherwise provided in this Schedule, to be eligible for admission to a general training college an ordinary entry candidate shall—

(*a*) obtain in approved examinations for a General Certificate of Education passes in English Language or English and in at least five other subjects selected in accordance with paragraph 2; and

(*b*) attain in English Language or English and in five other subjects selected in accordance with paragraph 3, in the examinations to which sub-paragraph (*a*) refers, such general standard as the Ministry considers necessary for a man or woman entrant, as the case may be, to the college to which the candidate seeks admission; and

(*c*) satisfy the Ministry of his general suitability to follow a course of teacher training.

2. The five subjects to which sub-paragraph (*a*) of paragraph 1 refers shall include:—

(*a*) one of the following—English Literature, a language other than English, a historical subject or Geography; and

(*b*) one of the following—a mathematical subject or scientific subject or Domestic Science or Geography; and

(*c*) one other subject selected from those referred to in sub-paragraph (*a*) and sub-paragraph (*b*):

provided that Geography may be taken into account for the purposes of either sub-paragraph (*a*) or sub-paragraph (*b*) but not of both.

3. The five subjects to which sub-paragraph (*b*) of paragraph 1 refers shall be the five subjects other than English Language or English which are most advantageous to the candidate, but shall not include—

(*a*) more than three languages other than English; or

(*b*) more than three mathematical subjects; or

(*c*) any two or more subjects which in the opinion of the Ministry are so related that they should not both or all be taken into account.

4. The Ministry may treat as a pass in any examination or subject to which this Schedule refers a pass in any other examination or subject, as the case may be, which it regards as equivalent thereto.

5. To be eligible for admission to a general training college a special entry candidate or a candidate for admission to a course lasting one year (not being in either case a candidate eligible under paragraph 6) shall satisfy the Ministry—

(*a*) as to his standard of education; and

(*b*) as to his suitability for the course of teacher training which he wishes to follow.

6. To be eligible for admission to a course of training for graduates in a general training college a candidate shall satisfy the Ministry that—

(*a*) he has followed a suitable university course and obtained a suitable university degree; and

(*b*) he is generally suitable to follow a course of teacher training.

7. To be eligible for admission to the Ulster College of Physical Education a candidate shall, in addition to fulfilling the requirements for admission to a general training college applicable to an ordinary entry candidate or special entry candidate, as the case may be, pass such tests of aptitude and suitability for the course and such medical tests as the Ministry may determine.

8. Candidates for admission to a course lasting less than three years shall be at least 20 years of age on 1st October in the year in which admission is sought.

APPENDIX VI

MISCELLANEOUS

1. Educational television

1. This note, prepared from information provided by the British Broadcasting Corporation and Ulster Television Ltd., covers both schools television and educational television primarily directed at adult audiences.

The United Kingdom

2. The first television programmes for schools in the United Kingdom were introduced in May, 1957 by Independent Television. The British Broadcasting Corporation began transmitting programmes for schools later in the same year. Initially, there were fewer than 100 schools equipped to receive television but by 1962 more than 4,000 schools out of a total of some 40,000 in England, Scotland, Wales and Northern Ireland were registered as intending viewers with the B.B.C. and ITV. This figure rose to more than 6,000 in 1963 when approximately 30 programme series were being viewed by schools widely distributed throughout the Kingdom. This development reflects an evolution in the attitude of the educational world in general, and of local education authorities in particular, towards the use of television in the classroom.

3. There is informal consultation between ITV (which does not advertise during school broadcasting hours) and the B.B.C. in order to see that the services are complementary and that the joint time table is acceptable to teachers. Both the B.B.C. and ITV co-operate closely with teachers and prepare and distribute programme literature to the schools. Independent Television has set up a Schools Broadcasting Secretariat to co-ordinate the supply of programmes, and of programme literature, to the different companies. The B.B.C.'s Schools Broadcasting Council for the United Kingdom lays down general policy for school broadcasting and the scope and purpose of each series. Separate Councils for Scotland and for Wales and a sub-Committee for Northern Ireland have similar responsibilities for broadcasts transmitted for those areas only.

4. A systematic and regular service of adult education programmes appeared at a later stage in the development of both B.B.C. and ITV. In December, 1962 the United Kingdom Government agreed to additional hours for both services, provided that these were used for the education of adults. Previously there had been experiments within the existing permitted hours, notably Ulster Television's "Midnight Oil"* and Associated-Rediffusion's repetition in the evening of school science and French programmes. ITV's first regular programme of adult education, according to the Government definition, began in January, 1963 on Sunday mornings and consisted of three separate series on spoken English, written English and French. The B.B.C. began in October, 1963 with an initial output of five separate half-hour programmes weekly. The first series included an introduction to the theory of relativity, a systematic account of human biology and a course in Italian. These programmes were seen throughout most of the country. In a more specialised field Scottish Television responded to an approach from the Postgraduate Medical School of Glasgow University to produce a series addressed to doctors to help them keep up to date with the latest advances in medical knowledge. In Eastern England co-operation between Cambridge University and Anglia Television led to a "Dawn University" experiment, transmitted in October, 1963, in which Cambridge scholars took part. Southern Television launched another experimental series "The Full Man". Westward Television has introduced refresher courses for teachers.

* Paragraph 16.

5. Regular adult education broadcasts by both ITV and B.B.C. are now being provided within the framework of the general services. This limits development according to balance between audiences and allotment of resources in time and money. Because of this limitation and the increasing demand for further education through the medium of television, the provision of an additional ETV channel has been suggested by many bodies. This would broadcast specialist instructional programmes separate from the existing general services of information, education and entertainment.

Europe

6. Schools television is already firmly rooted in the larger industrial countries in Europe, and is developing in other countries whose population is comparatively small but concentrated. Regular school programmes are broadcast by the television organisations in Sweden, Denmark and Belgium. Certain other organisations are trying experimental school television broadcasts which should result in some regular pattern being established. For example, the television organisations of Austria, the Irish Republic, Spain and Yugoslavia have embarked on a series of experimental school broadcasts, and the Netherlands, Portugal and Switzerland are making preparations for such experiments.

7. For ten years French Television has been broadcasting educational programmes prepared by the National Institute of Education for schools and individual viewers. At the beginning there were two weekly transmissions on film for primary schools in the Paris area but Radiodiffusion-Télévision Française is now broadcasting over the whole of its network five live programmes for primary, secondary and technical schools, four programmes and films for primary schools and two evening programmes for students of correspondence courses and evening classes for adults, as well as for candidates for the Baccalauréat.

8. Since 1958 RAI—Radio-televisione Italiana—has been transmitting regular programmes for schools under the title of Telescuola. These were begun, with the agreement of the Ministry of Education, to give children living in those parts of Italy which were still without an intermediate school an opportunity to continue their schooling.

9. In Europe as a whole two general developments in education and television, springing from the evolution of technology, are apparent. In the first place there is an increase in the number of television networks within the same country leading to an internal re-organisation of each network, sometimes to a re-distribution of functions between the networks themselves and the possible specialisation of one network in cultural matters, perhaps even in educational matters alone. Discussions currently taking place in the United Kingdom on the subject of a fourth network which would be purely educational and decentralised exemplify this to a considerable degree. Secondly, more families are tending to have more than one television set, which opens the possibility of a new network for educational programmes. The family television set is the centre of communal viewing and it can be

used only secondarily as a means of education. Individual receiving sets, possibly portable, could be used individually for purposes of instruction or systematic professional training, or for the general diffusion of culture in the widest sense.

United States

10. In the United States there are three main independent networks offering early morning university courses and a fourth network, the Educational Television Network, which has been growing rapidly for the past ten years. Even greater expansion is expected in the next three years when 150 new stations will be added to the existing 82 as the result of Congress authorising Federal funds to be made available on a matching basis to help to cover the construction costs of stations. In 1952 the Federal Communications Commission (the Government body responsible for broadcasting allocations) agreed to make 142 channels available for "non-commercial educational television". The object was to use television as an educational tool, to expand and make a university education available to all, to take some of the routine lecturing in the classroom from the teacher and to provide general interest programmes. To meet these objectives, stations fall into three groups influenced in character and programmes by their financial sources.

11. The University stations, usually attached to a large state university, are financed by university funds and operate on annual budgets varying between $50,000 and $569,000. These stations tend to specialise in adult education, using their courses for credits tied to the university's extension courses which, broadly, correspond with extra-mural courses in United Kingdom universities. A viewer at home can enrol for a small fee, receive a text-book and course outline, follow the weekly half-hour programme, do the paper work, consult the television lecturer on the telephone at specified times, attend a set number of conferences at the university, and at the end of the term take an examination and earn about three credits towards a degree. A Bachelor's degree requires about 120 credits. A number of industrial firms and educational boards require some credits each year for promotion and salary increments.

12. The School Boards' stations, which are common in the southern states where there is an acute shortage of teachers and facilities, are owned and financed by the local educational authorities and have an operating budget of between $122,000 and $455,000. Their main responsibility is to the schools —to provide programmes to supplement teachers' classes and/or to substitute for teachers. Teachers co-operate closely in the planning and production of the programmes, the text-books and the classroom follow-up outline.

13. The Community stations, mainly in the large metropolitan areas such as New York, Boston and San Francisco, are financed by grants and donations from the public, from industry and from educational institutions. These operate on budgets ranging from $153,000 to $1,358,000. The money is raised in fund raising campaigns and through subscriber members. In Boston, for example, $200,000 of the budget is guaranteed by the affiliation fees of member institutions such as the universities in the area, the Boston Symphony Orchestra and the Museum of Fine Art. Bodies such as these also provide

facilities and the services of staff free of charge. The Community stations all seek "underwriters", i.e. firms which contribute money to cover expenses for special programmes. These are credited at the end with a formal "This programme is made available to you by a grant from . . .", but the products are not advertised.

14. All the three types of station show all three types of programme and provide facilities for local educational authorities and universities to produce their own programmes. The School Boards' and University stations also show cultural programmes of general interest. They produce some themselves and many are supplied by the National Educational Television and Radio Centre.

Northern Ireland

15. The number of Northern Ireland schools and other educational institutions registered for viewing with the B.B.C. and Ulster Television in 1963/64 was as follows:—

Type of school or institution	Total number	Registrations*	
		B.B.C.	Ulster Television
Primary	1,483	48	41
Secondary intermediate	129	30	34
Technical intermediate	28	1	2
Grammar	81	18	22
Special	22	10	8
Training colleges	6	5	5
Miscellaneous	—	7	18
Total registrations		119	130

* Schools registered with both the B.B.C. and Ulster Television are shown in both columns.

From this it is clear that the number of schools equipped for television is small, but Northern Ireland is not peculiar in this respect. In the United Kingdom generally a real interest among teachers has been awakened only recently, and it is expected that there will be a substantial increase in viewing schools within the next few years. In 1963/64, 992 Northern Ireland schools were listed on the School Broadcasting Council's Register of Listening Schools.

16. The first "University of the Air" in the United Kingdom was pioneered by Ulster Television when it introduced in 1962 its "Midnight Oil" series of 42 late evening programmes comprising medicine, law, literature, music, history, science and economics, and produced in collaboration with members of the staff of Queen's University. "Midnight Oil" was viewed on 20 per cent. of the sets capable of receiving Independent Television and was followed in 1963 by a further series of programmes of an educational nature "The Inquiring Mind". Recently the Independent Television Authority has encouraged the establishment in Northern Ireland of the first educational channel in the United Kingdom in co-operation with Queen's University. The possibility of such a channel coming into operation depends on the granting of permission by the Postmaster-General, and this is being sought.

2. Professional and Technical Staff engaged in the Health and Hospital Services

Classification	Education requirements	Further training
*Medical Social Workers (Almoners)	University degree, diploma or certificate in social studies	1 year full-time
*Psychiatric Social Workers (Case Workers)	University degree, diploma or certificate in social studies	At least 1 year practical work followed by 1 year further university training
Social Welfare Officers	University entrance	Diploma or certificate in social studies, or Certificate of Council for Training in Social Work—2 years
Health Visitors	State Registered Nurse and Part I Midwifery Certificate	Health Visitors course as approved by Council for Training of Health Visitors—1 year
Physiotherapists	5 passes (including English and a science subject) in G.C.E. or equivalent	3 years full-time
Psychologists	University honours degree in psychology	3 years probation
Medical Laboratory Technicians ...	4 passes (including a science subject) in G.C.E. or equivalent	During employment approximately 5 years; less for students possessing passes in certain science subjects at Advanced level
Pharmacists	5 passes (including English, mathematics, physics and chemistry) in G.C.E. or equivalent, with certain passes at Advanced level, or other approved qualifications	3 years full-time plus 1 or 2 years practical experience
*Occupational Therapists	5 passes in G.C.E. or equivalent	3 years full-time
*Speech Therapists	5 passes in G.C.E. or equivalent including 1 at Advanced level	3 years full-time
*Chiropodists	4 passes (preferably including English, mathematics and a science subject) in G.C.E. or equivalent	3 years full-time
*Orthoptists	5 passes in G.C.E. or equivalent. A pass in mathematics desirable	2¼ years full-time
Radiographers	4 passes (including English and mathematics) in G.C.E. or equivalent	2 years full-time
*Therapeutic Dietitians	University degree in household science, domestic science or nutrition; or a teacher's diploma in domestic science; or a degree in pure science with some cookery training; or State Registered Nurse with cookery training	A short (18 months) diploma course
	5 passes in G.C.E. or equivalent—chemistry, English and mathematics required	An integrated diploma course (including some hospital experience) lasting 4 years
Physicists	University degree	2 years probation
Physics Technicians	Ordinary National Certificate in mechanical or electrical engineering or in applied physics; or intermediate B.Sc., or intermediate City and Guilds, or equivalent	In hospital while satisfying education requirements
Biochemists	University degree in chemistry or Royal Institute of Chemistry examinations	2 years probation

* Training facilities not available in Northern Ireland.

3. Northern Ireland Council for Educational Research

1. The Northern Ireland Council for Educational Research came into operation in April, 1963 following recommendations made by a Joint Working Party set up in 1958 by the Association of Northern Ireland Education Committees and the Ministry of Education. The Council was established to carry out investigations into research topics of special interest to teachers and local education authorities. The Council consists of twenty-four members as follows:—

Association of Northern Ireland Education Committees ...	10
Federal Council of Teachers in Northern Ireland	8
Queen's University	2
Stranmillis College Management Committee	1
St. Mary's and St. Joseph's Training Colleges	1
Ministry of Education	2

2. The funds of the Council are derived from the following sources:—

(*a*) Grants made by local education authorities in pursuance of powers conferred by Section 78 of the Education Act (Northern Ireland) 1947, and calculated on the pupil population in each education area. This expenditure by local education authorities attracts grant from the Ministry of Education.

(*b*) Grants made by teachers' organisations and calculated on the membership of the organisations.

(*c*) Contributions from individuals or from bodies in the form of subscriptions, donations or otherwise.

The present income of the Council is of the order of £3,000 per annum.

3. It is the Council's intention that a full-time Research Officer should be appointed at the earliest opportunity so that eventually an independent research unit may be established. Meantime the Council has been anxious to begin research activities on a part-time basis and research topics are being considered under three main headings:

(*a*) the compilation of data relevant to the education service and concerned with, for example, the pupils in age groups and the distribution of these in different types of schools;

(*b*) the collating and summarising of the findings of researches already carried out; and

(*c*) experiments or investigations on particular topics.

Three Working Panels have been established to deal with special topics bearing in mind these guiding principles. The first is concerning itself with the teaching of reading in primary schools; the second with research into examination problems with specific reference to the techniques appropriate in different types of schools for classroom examinations in the various school subjects and at different levels; and the third with the collection of relevant information and statistical data.

4. Other types of investigations have been suggested. For example, interest has been expressed in the methods of teaching mathematics at various levels through primary and secondary schools, the importance of oral English in the primary school, the emphasis which should be placed on homework at different age levels and the standardisation for Northern Ireland of verbal reasoning tests.

4. Charter of the Council for National Academic Awards

ELIZABETH THE SECOND by the Grace of God of the United Kingdom of Great Britain and Northern Ireland and of Our other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith:

To all to whom these Presents shall come, Greeting!

WHEREAS it has been represented unto Us that for the advancement of knowledge and learning, the diffusion and extension of the arts, sciences and technologies and the promotion of liberal, scientific, technological, professional, industrial and commercial education there is need for the foundation and constitution of a body having power to confer academic awards and distinctions on persons who have successfully pursued courses of study at educational establishments other than Universities:

AND WHEREAS We having taken the said representation into Our Royal consideration are minded to grant a Charter containing such provisions as seem to Us right and suitable:

NOW THEREFORE KNOW YE that We by virtue of Our Prerogative Royal and of Our especial grace, certain knowledge and mere motion have willed and ordained and by these Presents do for Us, Our Heirs and Successors will and ordain as follows:

1. The persons who shall in accordance with the provisions of this Our Charter be the Members for the time being of the Council for National Academic Awards are hereby constituted and from henceforth for ever shall be one body politic and corporate with perpetual succession and a Common Seal by the name and style of "The Council for National Academic Awards" (hereinafter called "the Council").

2. The object of the Council shall be the advancement in our United Kingdom of Great Britain and Northern Ireland of education, learning and knowledge by means of the grant of academic awards and distinctions and for the purpose of promoting that object it shall, subject to the provisions of this Our Charter and of the Statutes of the Council, determine the conditions governing the grant of such awards and distinctions and approve courses of study to be pursued by candidates to qualify for such grants, including where appropriate arrangements for training and experience in industry or commerce associated with such courses.

3. The Council shall have the following powers:

(*a*) To grant and confer Degrees, Diplomas, Certificates and other academic awards and distinctions to and on persons who shall have

pursued courses of study approved by the Council at educational establishments other than Universities and shall have passed such examinations or other tests as may from time to time be required by the Council ;

(*b*) To grant and confer Degrees to and on persons who shall before the date of this Our Charter have been awarded the Diploma in Technology of the National Council for Technological Awards or an Associateship of a Central Institution in Scotland after a course leading to an award comparable, in the opinion of the Council, to the said Diploma in Technology ;

(*c*) To grant and confer Degrees to and on persons, who at the date of this Our Charter, have completed or are pursuing courses of study leading to either of the awards specified in the preceding paragraph of this Article and have passed or subsequently pass the examinations or other tests appropriate to one or other of those awards ;

(*d*) To grant and confer Degrees to and on persons who shall have carried on research under the supervision of an education or research establishment other than a University under conditions approved by the Council ;

(*e*) To grant and confer Degrees to and on persons who have been awarded Membership of The College of Technologists ;

(*f*) To grant and confer, subject to such conditions as the Council shall from time to time determine, Honorary Degrees and distinctions to and on persons selected by the Council ;

(*g*) On what the Council shall deem to be good cause, to deprive persons of any Degrees, Diplomas, Certificates or other awards and distinctions granted to or conferred on them by the Council ;

(*h*) To co-operate with and assist, financially and otherwise, The College of Technologists ;

(*i*) To co-operate with other organisations and bodies for such purposes as the Council may from time to time deem fit ;

(*j*) To appoint such committees as the Council may think fit consisting either wholly or partly of Members of the Council and to delegate to such a committee with or without restrictions or conditions as it thinks fit the exercise of any of the Council's functions, except functions relating to finance and the appointment and dismissal of the chief officer of the Council ;

(*k*) To act as trustee of any property, legacy, endowment, bequest or gift for the general purposes of the Council or for any special purpose connected therewith ;

(*l*) To demand and receive fees in connexion with the exercise of its functions, and to receive grants and other payments ;

(*m*) To appoint any persons to hold honorary office in connexion with the Council ; and

(*n*) To do all such other acts and things whether incidental to the powers aforesaid or not as may be requisite in order to further the objects of this Our Charter.

4.—(1) The Council shall for the purpose of the exercise of its powers establish such Boards of Studies as it shall from time to time deem fit and such Boards shall, in the name and on behalf of the Council and in accordance with the Statutes of the Council and subject to the general control of the Council, approve courses and arrangements for examinations in such subjects as shall be respectively assigned to them by the Council and perform such other functions as the Council may from time to time require.

(2) The Council shall supervise and co-ordinate the work of any Board of Studies appointed by it, and shall determine all matters and disputes which may be submitted or referred to it by a Board.

5. There shall be a Chairman of the Council and Appointed and other Members of the Council. The first Chairman and Appointed Members shall be the persons named as such in the First Schedule hereto and they shall hold office from the date of this Our Charter.

6. Subject to the provisions of this Our Charter the Statutes of the Council may prescribe or regulate:

(*a*) The appointment and continuance in office of the Chairman, a Vice-Chairman or Vice-Chairmen and Members of the Council and the appointment and dismissal of other officers and servants thereof ;

(*b*) The meetings and proceedings of the Council ;

(*c*) The appointment, constitution, functions, meetings and proceedings of Boards of Studies established in pursuance of this Our Charter ; and

(*d*) Such other matters as the Council may deem fit and proper with respect to or for the promotion of the objects of this Our Charter.

7. (1) The Statutes contained in the Second Schedule hereto shall be the first Statutes of the Council and shall remain in force until they have been added to, amended or repealed in the manner hereinafter prescribed.

(2) The Council may by Special Resolution make Statutes which may add to, amend or repeal the Statutes for the time being in force:

Provided that no such Statutes shall have effect until approved in writing by Our Secretary of State for Education and Science and Our Secretary of State concerned with education in Scotland.

8. Except in special circumstances and with the approval in writing of Our Secretary of State for Education and Science, no Member of the Council shall take or hold any interest in any property belonging to or held for the purposes of the Council otherwise than as a trustee or be interested in the supply of work or goods at the cost of or to or for the purposes of the Council, or (except in the cases of the chief officer of the Council) receive any remuneration for his services.

9. No religious, racial or political test shall be imposed on any person as a condition of his being or becoming a Member of the Council or of a Board of Studies established in pursuance of this Our Charter or of receiving any Degree, Diploma, Certificate or other award or distinction from the Council.

10. Within the limits of this Our Charter and subject to the provisions of the Statutes of the Council for the time being in force, the Council shall have power to make, add to, amend and revoke Rules for the conduct of its business and for the regulation of the meetings and proceedings of and the exercise of functions by Boards of Studies established in pursuance of this Our Charter.

11. The Council may at any time add to, amend or repeal this Our Charter by a Special Resolution in that behalf and such addition, amendment or repeal shall when allowed by Us, Our Heirs or Successors in Council become effectual so that this Our Charter shall thenceforward continue and operate as so added to, amended or repealed in manner aforesaid. This Article shall apply to this Our Charter as added to, amended or repealed in manner aforesaid.

12. For the purposes of this Our Charter, a "Special Resolution" means a Resolution passed at one meeting of the Council and confirmed at a subsequent meeting held not less than one calendar month nor more than three calendar months after the former provided that notice of each meeting shall be given to each Member of the Council not less than twenty-one days before the meeting be held, and that the Resolution be passed at each meeting by a majority of not less than three-fourths of those present and voting.

13. Our Royal Will and Pleasure is that this Our Charter shall ever be construed benevolently and in every case most favourably to the Council and the promotion of the objects of this Our Charter.

IN WITNESS whereof We caused these Our Letters to be made Patent.

WITNESS Ourself at Westminster the tenth day of September in the thirteenth year of Our Reign.

BY WARRANT UNDER THE QUEEN'S SIGN MANUAL

APPENDIX VII

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TABLE 1

Numbers enrolled in secondary and in full-time further education 1937/38–1963/64

Thousands

School year	Type of school or institution				
	Secondary intermediate schools	Technical intermediate schools	Grammar schools		Further education (full-time enrolments)
			Lower division*	Upper division*	
1937/38	—	2.9	7.9	3.2	0.2
1948/49	4.8	4.5	14.4	5.0	1.3
1949/50	5.9	4.5	16.3	5.2	1.7
1950/51	6.7	4.6	17.9	5.3	1.9
1951/52	6.8	4.9	18.3	6.0	2.0
1952/53	7.0	5.6	17.8	6.9	2.2
1953/54	8.2	6.0	17.6	7.2	2.2
1954/55	10.7	6.1	18.0	7.4	2.3
1955/56	13.0	5.3	18.8	7.6	3.1
1956/57	15.2	5.1	19.5	7.7	3.5
1957/58	24.0	5.5	20.6	8.4	2.9
1958/59	36.0	5.5	21.1	9.3	3.4
1959/60	42.4	5.5	21.4	10.1	4.0
1960/61	47.2	4.5	20.8	11.7	4.6
1961/62	54.2	4.3	19.4	14.0	5.3
1962/63	55.8	4.0	19.9	15.1	6.5
1963/64	58.1	3.7	20.0	16.3	8.0

Source: Ministry of Education

• The lower division consists substantially of the pupils under 15 years of age, the upper division of those of 15 years of age or over.

TABLE 2

Numbers of pupils by age groups in the upper divisions* of grammar schools 1937/38–1963/64

Age	School year																
	1937/38	1948 49	1949/50	1950/51	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64
Under 15: Boys ...	45	142	140	131	192	201	245	292	317	420	462	501	191	568	1,038	983	1,252
Girls ...	29	118	120	86	119	152	184	158	190	282	278	287	109	455	917	1,114	1,051
Total ...	74	260	260	217	311	353	429	450	507	702	740	788	300	1,023	1,955	2,097	2,303
15: Boys	310	645	757	746	969	1,096	1,100	1,196	1,215	1,222	1,347	1,556	1,034	1,458	1,921	2,229	2,242
Girls	288	591	608	659	896	987	1,055	1,001	963	1,008	1,168	1,322	784	1,364	1,868	2,010	2,303
Total ...	598	1,236	1,365	1,405	1,865	2,083	2,155	2,197	2,178	2,230	2,515	2,878	1,818	2,822	3,789	4,239	4,545
16: Boys	601	942	1,012	1,086	1,189	1,412	1,448	1,510	1,478	1,494	1,554	1,647	1,980	2,010	1,976	2,145	2,416
Girls	519	866	912	928	1,064	1,274	1,317	1,422	1,403	1,325	1,478	1,609	1,834	1,920	2,040	2,084	2,176
Total ...	1,120	1,808	1,924	2,014	2,253	2,686	2,765	2,932	2,881	2,819	3,032	3,256	3,814	3,930	4,016	4,229	4,592
17: Boys	500	636	689	709	684	737	860	796	930	888	1,038	1,122	1,615	1,613	1,669	1,659	1,803
Girls	459	545	580	591	566	662	663	673	790	743	751	885	1,530	1,483	1,520	1,603	1,634
Total ...	959	1,181	1,269	1,300	1,250	1,399	1,523	1,469	1,720	1,631	1,789	2,007	3,145	3,096	3,189	3,262	3,437
18: Boys	179	208	188	190	164	145	175	188	168	168	226	278	577	498	584	743	747
Girls	166	158	162	135	117	125	127	109	100	93	116	110	361	292	349	400	488
Total ...	345	366	350	325	281	270	302	297	268	261	342	388	938	790	933	1,143	1,235
19 and over: Boys ...	61	34	31	31	32	22	11	12	11	12	14	19	53	31	46	73	99
Girls ...	72	71	26	31	35	61	51	37	23	8	14	13	33	16	40	33	45
Total ...	133	105	57	62	67	83	62	49	34	20	28	32	86	47	86	106	144
Boys	1,696	2,607	2,817	2,893	3,230	3,613	3,839	3,994	4,119	4,204	4,641	5,123	5,450	6,178	7,234	7,832	8,559
Girls	1,533	2,349	2,408	2,430	2,797	3,261	3,397	3,400	3,469	3,459	3,805	4,226	4,651	5,530	6,734	7,244	7,697
Total	3,229	4,956	5,225	5,323	6,027	6,874	7,236	7,394	7,588	7,663	8,446	9,349	10,101	11,708	13,968	15,076	16,256

Source: Ministry of Education

* See footnote to Table 1.

TABLE 3

Full-time students at university and teacher training establishments 1938/39–1963/64

Academic year	Queen's University*			Magee University College			Teacher training establishments†		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1938/39 ...	1,237	355	1,592	82	18	100	53‡	185‡	238‡
1948/49 ...	1,853	539	2,392	66	20	86	237§	346§	583§
1949/50 ...	1,819	542	2,361	65	20	85	236	424	660
1950/51 ...	1,743	546	2,289	57	17	74	335	615	950
1951/52 ...	1,667	584	2,251	49	19	68	426	761	1,187
1952/53 ...	1,659	552	2,211	56	15	71	455	866	1,321
1953/54 ...	1,584	598	2,182	59	13	72	502	1,003	1,505
1954/55 ...	1,546	573	2,119	64	15	79	550	1,058	1,608
1955/56 ...	1,569	602	2,171	64	17	81	544	1,065	1,609
1956/57 ...	1,664	581	2,245	69	23	92	588	1,117	1,705
1957/58 ...	1,823	586	2,409	81	18	99	582	1,103	1,685
1958/59 ...	2,060	631	2,691	90	26	116	559	1,095	1,654
1959/60 ...	2,297	704	3,001	104	28	132	574	1,088	1,662
1960/61 ...	2,493	826	3,319	96	28	124	579	1,144	1,723
1961/62 ...	2,754	987	3,741	112	40	152	580	1,282	1,862
1962/63 ...	2,831	990	3,821	148	62	210	569	1,413	1,982
1963/64 ...	3,047	1,088	4,135	153	92	245	578	1,472	2,050

Source: Queen's University
Magee University College
Ministry of Education

* Including students enrolled in the Department of Education.

† Excluding students enrolled in the Department of Education of Queen's University.

‡ General training colleges only.

§ General training colleges and Belfast College of Art only.

TABLE 4

Numbers leaving school with G.C.E. or equivalent qualifications expressed as a percentage of the relevant age group*

1961–63

Passes in General Certificate of Education or equivalent	Boys			Girls			Boys and Girls		
	1961	1962	1963	1961	1962	1963	1961	1962	1963
Cumulative totals									
"A" levels									
3 or more	6·2	4·8	5·8	3·3	2·4	2·9	4·6	3·6	4·4
2 or more	8·4	7·1	8·4	4·6	4·1	4·4	6·4	5·6	6·4
1 or more	9·8	8·6	10·1	5·8	5·2	5·8	7·7	6·9	7·9
"O" levels only									
5 or more	14·1	13·2	15·0	12·1	13·0	13·8	13·0	13·1	14·8
1–4	17·9	17·8	21·4	14·3	15·6	17·0	16·0	16·7	19·1
Totals for each level									
"A" levels									
3 or more	6·2	4·8	5·8	3·3	2·4	2·9	4·6	3·6	4·4
2	2·2	2·3	2·6	1·3	1·7	1·5	1·8	2·0	2·0
1	1·4	1·5	1·7	1·2	1·1	1·4	1·3	1·3	1·5
"O" levels only									
5 or more	4·3	4·6	5·9	6·3	7·8	8·0	5·3	6·2	6·9
1–4	3·8	4·6	5·4	2·2	2·6	3·2	3·0	3·6	4·3

Source: Ministry of Education

* Chapter III: Paragraph 35.

TABLE 5

Percentage of school leavers entering different sectors of higher education in 1961 with qualifications at leaving school

Percentage

Passes in General Certificate of Education or equivalent	University	Teacher training	Further education			Total
			Full-time	Part-time	None	
BOYS						
"A" levels						
3 or more ...	84·7	3·1	3·1	1·2	7·9	100
2 only	54·5	9·7	5·2	2·2	28·4	100
1 only	15·4	14·8	13·6	4·7	51·5	100
"O" levels only						
5 or more ...	3·5	9·3	10·5	8·3	68·4	100
1–4	1·1	1·1	6·4	10·4	81·0	100
GIRLS						
"A" levels						
3 or more ...	70·7	17·6	3·7	0·7	7·3	100
2 only	30·2	45·9	7·5	1·3	15·1	100
1 only	0·6	48·7	11·3	2·7	36·7	100
"O" levels only						
5 or more ...	1·3	26·9	13·2	1·9	56·7	100
1–4	0·7	1·8	10·1	3·3	84·1	100
BOYS AND GIRLS						
"A" levels						
3 or more ...	79·8	8·2	3·3	1·0	7·7	100
2 only	45·4	23·2	6·1	1·9	23·4	100
1 only	8·5	30·7	12·5	3·8	44·5	100
"O" levels only						
5 or more ...	2·2	19·9	12·1	4·5	61·3	100
1–4 only	1·0	1·4	7·8	7·7	82·1	100

Source: Ministry of Education

32167

TABLE 6

Percentage of school leavers entering different sectors of higher education in 1962 with qualifications at leaving school

Percentage

Passes in General Certificate of Education or equivalent	University	Teacher training	Further education			Total
			Full-time	Part-time	None	
BOYS						
"A" levels						
3 or more ...	88·2	2·5	3·2	0·3	5·8	100
2 only	56·1	14·0	4·6	2·8	22·5	100
1 only	9·1	22·5	10·7	8·0	49·7	100
"O" levels only						
5 or more ...	2·4	10·7	10·0	10·4	66·5	100
1–4	0·3	0·2	7·2	14·8	77·5	100
GIRLS						
"A" levels						
3 or more ...	79·5	12·5	4·0	—	4·0	100
2 only	41·3	36·9	9·7	1·4	10·7	100
1 only	4·4	47·8	14·7	4·4	28·7	100
"O" levels only						
5 or more ...	1·0	27·5	11·4	2·8	57·3	100
1–4	0·3	1·2	12·9	6·4	79·2	100
BOYS AND GIRLS						
"A" levels						
3 or more ...	85·4	5·8	3·4	0·2	5·2	100
2 only	49·9	23·6	6·7	2·3	17·5	100
1 only	7·1	33·1	12·4	6·5	40·9	100
"O" levels only						
5 or more ...	1·5	21·3	10·9	5·6	60·7	100
1–4	0·3	0·6	9·2	11·8	78·1	100

Source: Ministry of Education

Table 7

Percentage of school leavers entering different sectors of higher education in 1963 with qualifications at leaving school

Percentage

Passes in General Certificate of Education or equivalent	University	Teacher training	Further education			Total
			Full-time	Part-time	None	
Boys						
"A" levels	85·9	4·4	4·1	1·0	4·6	100
3 or more ...	46·9	12·3	10·1	4·9	25·8	100
2 only	7·2	18·7	14·9	8·7	50·5	100
1 only						
"O" levels only	2·0	9·7	8·3	13·3	66·7	100
5 or more ...	—	1·8	5·8	10·7	81·7	100
1–4						
Girls						
"A" levels	80·9	9·3	5·1	0·2	4·5	100
3 or more ...	29·4	36·1	15·0	1·7	17·8	100
2 only	6·0	43·5	8·3	6·5	35·7	100
1 only						
"O" levels only	0·6	21·0	14·4	3·8	60·2	100
5 or more ...	0·2	0·8	9·8	8·7	80·5	100
1–4						
Boys and Girls						
"A" levels	84·3	6·0	4·4	0·8	4·5	100
3 or more ...	40·7	20·7	11·9	3·8	22·9	100
2 only	6·6	29·8	12·0	7·7	43·9	100
1 only						
"O" levels only	1·2	16·2	11·8	7·9	62·9	100
5 or more ...	—	1·4	7·3	10·0	81·3	100
1–4						

Source: Ministry of Education

32167

TABLE 8

Numbers of 18 year olds in June
1937–1980

Thousands

Year	Northern Ireland			Totals as percentage of the 1961 total	
	Boys	Girls	Total	Northern Ireland	Great Britain
1937	10·4	10·6	21·0	—	—
1951	11·0	10·5	21·5	—	—
1961	12·0	12·3	24·3	100	100
1962	12·4	12·3	24·7	102	105
1963	12·7	12·4	25·1	103	104
1964	12·9	12·2	25·1	103	105
1965	13·7	12·9	26·6	109	135
1966	13·2	12·6	25·8	106	121
1967	13·0	12·2	25·2	104	112
1968	13·0	12·2	25·2	104	107
1969	12·8	11·9	24·7	102	104
1970	12·4	11·8	24·2	100	101
1971	13·2	12·0	25·2	104	103
1972	12·9	12·2	25·1	103	104
1973	13·0	12·3	25·3	104	102
1974	13·4	12·5	25·9	107	106
1975	13·5	12·8	26·3	108	110
1976	13·5	13·3	26·8	110	113
1977	13·7	13·2	26·9	111	116
1978	14·2	13·5	27·7	114	117
1979	14·9	14·1	29·0	119	123
1980	15·1	14·0	29·1	120	126

Source: Government Actuary's Department

TABLE 9

Queen's University, Belfast
Age groups* of first year undergraduate students, by discipline
1963/64

Discipline	Full-time								Part-time								Total	
	17		18		19		20 and over		17		18		19		20 and over			
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Arts	5	9	88	111	60	49	10	8	—	—	—	—	1	—	6	2	170	179
Economics	5	1	20	3	16	2	12	—	—	—	—	—	1	1	36	1	90	8
Law	2	—	17	2	13	1	8	2	—	—	—	—	—	—	5	—	45	5
Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Education	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3
Science	16	4	89	23	68	16	10	3	—	—	—	—	—	—	—	—	183	46
Applied Science ...	2	—	69	—	25	—	28	—	—	—	—	—	—	—	—	—	124	—
Technology† ...	—	2	10	4	12	1	7	—	—	—	—	—	—	—	—	—	29	7
Medicine	4	2	28	15	20	11	7	1	—	—	—	—	—	—	—	—	59	29
Dentistry	2	—	7	4	7	—	1	—	—	—	—	—	—	—	—	—	17	4
Agriculture... ...	—	—	5	—	10	—	6	—	—	—	—	—	—	—	—	—	21	—
Theology	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	36	18	333	162	231	80	89	14	—	—	—	—	2	1	47	6	738	281

Source: Queen's University

* Age at 1st January, 1964.

† At Belfast College of Technology.

TABLE 10

Queen's University, Belfast

Numbers of students entering for the first time, by discipline

1963/64

Discipline	Undergraduate				Postgraduate				Total
	Full-time		Part-time		Full-time		Part-time		
	Men	Women	Men	Women	Men	Women	Men	Women	
Arts	163	177	6	3	1	1	2	—	353
Economics ...	53	6	37	2	—	—	1	—	99
Law	40	5	5	—	—	—	—	—	50
Social Studies ...	—	—	—	—	1	7	—	—	8
Education ...	—	—	—	3	17	9	4	—	33
Science ...	183	46	—	—	3	—	6	1	239
Applied Science	164	—	—	—	3	—	2	—	169
Technology* ...	29	7	—	—	—	—	—	—	36
Medicine ...	59	29	—	—	2	2	1	—	93
Dentistry ...	17	4	—	—	3	—	1	—	25
Agriculture ...	21	—	—	—	3	—	1	—	25
Theology ...	—	—	—	—	—	—	—	—	—
Biblical Studies...	—	—	—	–	—	—	1	1	2
Total	729	274	48	8	33	19	19	2	1,132

Source: Queen's University

* At Belfast College of Technology.

TABLE 11

Queen's University, Belfast
Student enrolment, by discipline
1963/64

Discipline	Undergraduate				Postgraduate				Total
	Full-time		Part-time		Full-time		Part-time		
	Men	Women	Men	Women	Men	Women	Men	Women	
Arts	585	591	24	16	21	8	32	7	1,284
Economics ...	170	15	204	5	—	—	26	1	421
Law	119	25	9	—	—	—	1	—	154
Social Studies ...	—	—	—	—	3	19	—	1	23
Education ...	—	—	—	5	66	48	64	9	192
Science	640	179	4	4	138	10	22	4	1,001
Applied Science	599	2	19	—	35	—	39	1	695
Technology* ...	63	25	3	—	8	—	11	1	111
Medicine ...	404	138	—	—	10	5	17	2	576
Dentistry ...	84	23	—	—	3	—	6	—	116
Agriculture ...	78	—	—	—	16	—	28	—	122
Theology ...	—	—	—	—	5	—	—	—	5
Biblical Studies†	—	—	—	—	—	—	3	5	8
Total	2,742	998	263	30	305	90	249	31	4,708

Source: Queen's University

* At Belfast College of Technology.

† 10 other Students in Biblical Studies are enrolled under other disciplines.

TABLE 12

Queen's University, Belfast

Geographical distribution of full-time students, undergraduate and postgraduate, by discipline

1963/64

Area \ Discipline	Arts		Economics		Law		Social Studies		Education		Science		Applied Science		Tech-nology*		Medicine		Dentistry		Agri-culture		Theology		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Belfast County Borough	213	216	75	6	52	8	1	6	12	12	294	75	229	—	34	8	136	64	37	11	18	—	3	—	1,104	406
Londonderry County Borough ...	24	10	7	—	—	—	—	—	3	—	27	2	23	—	—	—	8	1	3	1	—	—	—	—	95	14
County Antrim ...	97	100	21	1	12	8	—	2	15	6	108	35	97	—	10	5	67	21	11	4	23	—	—	—	461	182
County Armagh ...	50	47	7	—	4	—	1	1	4	2	52	10	29	1	3	—	14	7	8	4	3	—	—	—	175	72
County Down ...	83	101	17	1	22	2	—	5	6	9	116	29	125	—	6	4	51	21	7	1	24	—	2	—	459	173
County Fermanagh...	18	15	—	1	3	1	—	—	1	—	8	2	8	—	—	1	3	2	1	—	1	—	—	—	43	22
County Londonderry	34	21	5	—	3	—	—	2	2	5	48	8	36	—	2	5	28	7	7	—	7	—	—	—	172	48
County Tyrone ...	41	60	8	2	9	2	—	—	6	8	52	18	28	—	10	—	16	6	8	1	10	—	—	—	188	97
Northern Ireland ...	560	570	140	11	105	21	2	16	49	42	705	179	575	1	65	23	323	129	82	22	86	—	5	—	2,697	1,014
Great Britain ...	31	17	8	3	6	1	—	3	12	2	31	5	18	1	1	2	18	2	2	—	4	—	—	—	131	36
Commonwealth countries	8	6	15	1	7	2	—	—	2	3	18	4	24	—	4	—	56	8	3	—	4	—	—	—	141	24
Irish Republic ...	4	4	1	—	1	1	1	—	3	1	10	—	3	—	—	—	2	2	—	1	—	—	—	—	25	9
Other countries ...	3	2	6	—	—	—	—	—	—	—	14	1	14	—	1	—	15	2	—	—	—	—	—	—	53	5
Total	606	599	170	15	119	25	3	19	66	48	778	189	634	2	71	25	414	143	87	23	94	—	5	—	3,047	1,088

Source: Queen's University

* At Belfast College of Technology.

TABLE 13

Queen's University, Belfast

Geographical distribution of part-time students, including students enrolled for examination only, by discipline

1963/64

Area \ Discipline	Arts		Economics		Law		Social Studies		Education		Science		Applied Science		Tech-nology*		Medicine		Dentistry		Agri-culture		Biblical Studies		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Belfast County Borough	22	4	144	3	3	—	—	1	44	6	10	2	20	1	9	—	10	—	2	—	3	—	3	5	270	22
Londonderry County Borough	1	2	6	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	8	2
County Antrim ...	6	5	36	2	2	—	—	—	4	3	1	1	9	—	3	1	1	1	—	—	4	—	—	—	66	13
County Armagh ...	1	3	8	—	—	—	—	—	3	—	3	1	4	—	1	—	1	—	—	—	2	—	—	—	23	4
County Down ...	8	3	22	1	1	—	—	—	5	2	—	—	7	—	—	—	1	—	—	—	3	—	—	—	47	6
County Fermanagh...	—	1	2	—	1	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	2	—	—	—	7	1
County Londonderry	3	—	2	—	1	—	—	—	3	—	1	1	2	—	—	—	—	1	—	—	2	—	—	—	14	2
County Tyrone ...	1	3	3	—	2	—	—	—	—	—	3	2	—	—	1	—	—	—	—	—	3	—	—	—	13	5
Northern Ireland ...	42	21	223	6	10	—	—	1	60	11	20	7	42	1	14	1	13	2	2	—	19	—	3	5	448	55
Great Britain ...	5	—	4	—	—	—	—	—	1	—	5	—	7	—	—	—	2	—	—	—	6	—	—	—	30	—
Commonwealth countries	1	—	2	—	—	—	—	—	—	—	—	—	5	—	—	—	2	—	4	—	3	—	—	—	17	—
Irish Republic ...	4	—	1	—	—	—	—	—	3	2	1	1	2	—	—	—	—	—	—	—	—	—	—	—	11	3
Other countries ...	4	2	—	—	—	—	—	—	—	1	—	—	2	—	—	—	—	—	—	—	—	—	—	—	6	3
Total	56	23	230	6	10	—	—	1	64	14	26	8	58	1	14	1	17	2	6	—	28	—	3	5	512	61

Source: Queen's University

* At Belfast College of Technology.

TABLE 14

Queen's University, Belfast

Term-time residence of full-time students

1963/64

Classification	Men	Women	Total	
University hostels				
(*a*) Queen's Residences	61	—	61	
(*b*) Riddel Hall	—	68	68	191
(*c*) Aquinas Hall	—	62	62	
Other hostels not necessarily limited to University students				
(*a*) Presbyterian Hostels				
(i) Howard Street	10	30	40	
(ii) College Park	9	—	9	
(iii) Assembly's College	9	—	9	
(*b*) Elmwood Avenue (Church of Ireland) ...	6	—	6	
(*c*) St. Malachy's College	13	—	13	110
(*d*) Methodist College	3	—	3	
(*e*) Edgehill College	9	—	9	
(*f*) Y.W.C.A.	—	21	21	
Lodgings	812	179	991	
Flats	329	97	426	1,495
With friends or relations	61	17	78	
At home	1,725	614		2,339
Total	3,047	1,088		4,135

Source: Queen's University

TABLE 15

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Arts

First year performance and age at admission

First year performance \ Age at admission*	17		18		19		20 and over		Total	
	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	23	27	40	26	15	—	2	1	80	54
Passed all first year examinations by September of second year	7	4	4	10	2	2	1	1	14	17
Progress held up due to illness or other reasons†	1	—	1	3	—	—	—	—	2	3
Withdrew from Faculty or University due to academic failure	1	2	7	2	1	1	1	—	10	5
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	1	1	—	—	—	1	1
Total	32	33	52	42	19	3	4	2	107	80

Source: Queen's University

* Age at 1st January, 1958.

† Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 16

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Arts

First year performance and number of Advanced level passes

Number of Advanced level passes / First year performance	Four or more		Three		Two		One		None		Total	
	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	33	17	37	32	4	2	5	3	1	—	80	54
Passed all first year examinations by September of second year	5	7	6	6	3	4	—	—	—	—	14	17
Progress held up due to illness or other reasons*	—	2	1	—	1	—	—	1	—	—	2	3
Withdrew from Faculty or University due to academic failure	3	—	4	4	2	—	1	1	—	—	10	5
Withdrew from Faculty or University for reasons other than academic failure ...	1	—	—	1	—	—	—	—	—	—	1	1
Total	42	26	48	43	10	6	6	5	1	—	107	80

Source: Queen's University

* Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 17

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Arts

Entrance qualification and final degree result

Number of Advanced level passes \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Four or more	5	1	12	6	4	7	1	2	15	10	—	—	—	—	—	—	5	—	42	26
Three	3	—	5	3	14	8	3	2	18	22	—	—	—	—	—	2	5	6	48	43
Two	—	—	—	—	—	—	1	—	6	5	—	—	—	—	—	—	3	1	10	6
One	—	—	—	—	2	—	—	—	3	3	—	—	—	1	—	—	1	1	6	5
None	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—
Total	8	1	17	9	20	15	5	4	43	40	—	—	—	1	—	2	14	8	107	80

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

TABLE 18

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification

Faculty of Arts

Degree result compared with first year performance

First year performance \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	8	1	16	9	19	15	5	4	29	24	—	—	—	—	—	—	3	1	80	54
Passed all first year examinations by September of second year	—	—	1	—	1	—	—	—	12	14	—	—	—	—	—	2	—	1	14	17
Progress held up due to illness or other reasons† ...	—	—	—	—	—	—	—	—	2	2	—	—	—	1	—	—	—	—	2	3
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	5	10	5
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1
Total	8	1	17	9	20	15	5	4	43	40	—	—	—	1	—	2	14	8	107	80

Source: Queen's University.

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

† Includes the following categories:—

Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 19

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Science

First year performance and age at admission

Age at admission* / First year performance	17		18		19		20 and over		Total	
	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	25	1	45	10	11	1	—	—	81	12
Passed all first year examinations by September of second year	2	3	7	3	2	—	—	—	11	6
Progress held up due to illness or other reasons†	2	—	2	1	—	—	—	—	4	1
Withdrew from Faculty or University due to academic failure	—	—	—	—	3	—	—	—	3	—
Withdrew from Faculty or University for reasons other than academic failure ...	1	—	1	—	—	—	—	—	2	—
Total	30	4	55	14	16	1	—	—	101	19

Source: Queen's University

* Age at 1st January, 1958.

† Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 20

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Science

First year performance and number of Advanced level passes

Number of Advanced level passes / First year performance	Four or more		Three		Two		One		None		Total	
	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	58	7	13	4	7	1	2	—	1	—	81	12
Passed all first year examinations by September of second year	5	6	2	—	2	—	2	—	—	—	11	6
Progress held up due to illness or other reasons*	3	—	1	1	—	—	—	—	—	—	4	1
Withdrew from Faculty or University due to academic failure	1	—	2	—	—	—	—	—	—	—	3	—
Withdrew from Faculty or University for reasons other than academic failure ...	1	—	—	—	—	—	1	—	—	—	2	—
Total	68	13	18	5	9	1	5	—	1	—	101	19

Source: Queen's University

* Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 21

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Science

Entrance qualification and final degree result

Number of Advanced level passes \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Four or more	11	—	23	4	13	2	3	2	9	5	2	—	—	—	—	—	7	—	68	13
Three	2	1	6	1	2	1	—	—	3	2	—	—	—	—	—	—	5	—	18	5
Two	—	—	2	—	2	—	—	—	4	—	—	—	—	—	—	—	2	1	10	1
One	—	—	—	—	1	—	1	—	2	—	—	—	—	—	—	—	—	—	4	—
None	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
Total	13	1	31	5	19	3	4	2	18	7	2	—	—	—	—	—	14	1	101	19

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

TABLE 22

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification

Faculty of Science

Degree result compared with first year performance

First year performance \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	13	1	29	4	15	2	3	2	13	2	1	—	—	—	—	—	7	1	81	12
Passed all first year examinations by September of second year	—	—	—	1	2	—	1	1	5	4	1	—	—	—	—	—	2	—	11	6
Progress held up due to illness or other reasons† ...	—	—	1	—	2	—	—	—	—	1	—	—	—	—	—	—	1	—	4	1
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
Total	13	1	30	5	19	2	4	3	18	7	2	—	—	—	—	—	15	1	101	19

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

† Includes the following categories:—

Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 23

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Medicine (including School of Dentistry)

First year performance and age at admission

First year performance \ Age at admission*	17		18		19		20 and over		Total	
	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	13	2	15	6	8	—	—	—	36	8
Passed all first year examinations by September of second year	—	—	—	—	1	—	1	—	2	—
Progress held up due to illness or other reasons†	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—
Total	13	2	15	6	9	—	1	—	38	8

Source: Queen's University

* Age at 1st January, 1958.

† Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 24

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Medicine (including School of Dentistry)

First year performance and number of Advanced level passes

First year performance \ Number of Advanced level passes	Four or more		Three		Two		One		None		Total	
	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	18	2	8	3	5	1	2	2	3	—	36	8
Passed all first year examinations by September of second year	—	—	1	—	—	—	1	—	—	—	2	—
Progress held up due to illness or other reasons*	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—
Total	18	2	9	3	5	1	3	2	3	—	38	8

Source: Queen's University

- Includes the following categories:—
  Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
  Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
  Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
  Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 25

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Medicine (including School of Dentistry)

Entrance qualification and final degree result

Number of Advanced level passes \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Four or more	—	—	—	—	—	—	—	—	18	2	—	—	—	—	—	—	1	—	19	2
Three	—	—	1	—	—	—	—	—	8	3	—	—	—	—	—	—	—	—	9	3
Two	—	—	—	—	—	—	—	—	5	1	—	—	—	—	—	—	—	—	5	1
One	—	—	—	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	2	2
None	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	3	—
Total	—	—	1	—	—	—	—	—	36	8	—	—	—	—	—	—	1	—	38	8

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

TABLE 26

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Medicine (including School of Dentistry)

Degree result compared with first year performance

First year performance / Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Passed all first year examinations by September of first year	—	—	1	—	—	—	—	—	34	7	—	—	—	—	—	—	1	—	36	7
Passed all first year examinations by September of second year	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	—	—	2	1
Progress held up due to illness or other reasons† ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	1	—	—	—	—	—	36	8	—	—	—	—	—	—	1	—	38	8

Source: Queen's University

* Degree result key:—
0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

† Includes the following categories:—
Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 27

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Applied Science and Technology

First year performance and age at admission

First year performance \ Age at admission*	17		18		19		20 and over		Total	
	M	W	M	W	M	W	M	W	M	W
Passed or exempted from all first year examinations by September of first year ...	12	—	27	—	10	—	1	—	50	—
Passed all first year examinations by September of second year	1	1	7	—	5	—	1	—	14	1
Progress held up due to illness or other reasons†	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	3	—	—	—	—	—	3	—
Total	13	1	37	—	15	—	2	—	67	1

Source: Queen's University

* Age at 1st January, 1958.

† Includes the following categories:—

Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 28

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Applied Science and Technology

First year performance and number of Advanced level passes

Number of Advanced level passes / First year performance	Four or more		Three		Two		One		None		Total	
	M	W	M	W	M	W	M	W	M	W	M	W
Exempted from all first year examinations	14	—	—	—	—	—	—	—	—	—	14	—
Passed all first year examinations by September of first year	24	—	10	—	2	—	—	—	—	—	36	—
Passed all first year examinations by September of second year	5	—	3	1	5	—	1	—	—	—	14	1
Progress held up due to illness or other reasons*	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	2	—	1	—	—	—	—	—	—	—	3	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—
Total	45	—	14	1	7	—	1	—	—	—	67	1

Source: Queen's University

* Includes the following categories:—

Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 29

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification
Faculty of Applied Science and Technology

Entrance qualification and final degree result

Number of Advanced level passes \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Four or more	6	—	4	—	9	—	—	—	21	—	1	—	—	—	—	—	3	—	44	—
Three	2	—	—	—	1	—	—	—	9	—	—	—	—	—	—	—	2	—	14	—
Two	2	—	—	—	1	—	—	—	2	1	—	—	—	—	—	—	3	—	8	1
One	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—
None	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10	—	5	—	11	—	—	—	32	1	1	—	—	—	—	—	8	—	67	1

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

TABLE 30

Queen's University, Belfast

Full-time students who entered in 1957 having Senior Certificate as their sole entrance qualification

Faculty of Applied Science and Technology

Degree result compared with first year performance

First year performance \ Degree result*	0		1		2		3		4		5		6		7		8		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Exempted from all first year examinations	2	—	1	—	5	—	—	—	6	—	1	—	—	—	—	—	—	—	15	—
Passed all first year examinations by September of first year	5	—	2	—	5	—	—	—	21	—	—	—	—	—	—	—	2	—	35	—
Passed all first year examinations by September of second year	3	—	2	—	1	—	—	—	5	1	—	—	—	—	—	—	3	—	14	1
Progress held up due to illness or other reasons† ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Withdrew from Faculty or University due to academic failure	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—
Withdrew from Faculty or University for reasons other than academic failure ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10	—	5	—	11	—	—	—	32	1	1	—	—	—	—	—	8	—	67	1

Source: Queen's University

* Degree result key:—

0 Honours 1.
1 Honours 2 (i).
2 Honours 2 (ii).
3 Honours 3.
4 Pass or general degree without interruption by circumstances beyond the student's control, e.g. illness.
5 Pass or general degree after an honours examination.
6 Pass or general degree after interruption due to circumstances beyond the student's control, e.g. illness.
7 Fail or sent down.
8 Withdrew, for whatever reason.

† Includes the following categories:—

Passed all first year subjects at *first* attempt but missed *one* examination due to illness.
Passed all first year subjects at *first* attempt but missed *two* examinations due to illness.
Passed all first year subjects at *second* attempt but missed *one* examination due to illness.
Passed all first year subjects at *second* attempt but missed *two* examinations due to illness.

TABLE 31

Queen's University, Belfast
Entrance qualification and performance of full-time students who entered the University in 1961

Qualification at entrance

Entrance by General Certificate of Education or equivalent			Other entrants	
Number of Advanced level passes	Students			
	Number	Percentage	Number	Percentage
Four or more	327	29·0	—	—
Three	540	48·0	—	—
Two	166	14·8	—	—
Total	1,033	91·8	92	8·2

Performance at end of first year

Number of Advanced level passes / Performance	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	277	84·7	364	67·4	72	43·4	51	55·4	764	67·9
Passed all examinations but one ...	14	4·3	88	16·3	39	23·5	13	14·1	154	13·7
Passed some examinations ...	5	1·5	14	2·6	9	5·4	6	6·5	34	3·0
Passed one examination	18	5·5	43	8·0	24	14·4	10	10·9	95	8·5
Passed no examinations	13	4·0	31	5·7	22	13·3	12	13·1	78	6·9

Source: Queen's University

TABLE 32

Queen's University, Belfast
Entrance qualification and performance of full-time students who entered the University in 1961

Faculty of Arts

Qualification at entrance

Entrance by General Certificate of Education or equivalent			Other entrants	
Number of Advanced level passes	Students			
	Number	Percentage	Number	Percentage
Four or more	77	17·1	—	—
Three	281	62·4	—	—
Two	74	16·5	—	—
Total	432	96·0	18	4·0

Performance at end of first year

Number of Advanced level passes / Performance	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	63	81·8	187	66·5	36	48·7	10	55·5	296	65·8
Passed two examinations ...	6	7·8	56	19·9	18	24·3	2	11·1	82	18·2
Passed one examination ...	4	5·2	23	8·2	10	13·5	3	16·7	40	8·9
Passed no examinations	4	5·2	15	5·4	10	13·5	3	16·7	32	7·1

Source: Queen's University

TABLE 33

Queen's University, Belfast
Entrance qualification and performance of full-time students who entered the University in 1961

Faculty of Science

Qualification at entrance

Entrance by General Certificate of Education or equivalent			Other entrants	
Number of Advanced level passes	Students			
	Number	Percentage	Number	Percentage
Four or more	116	43.1	—	—
Three	100	37.2	—	—
Two	41	15.2	—	—
Total	257	95.5	12	4.5

Performance at end of first year

Number of Advanced level passes / Performance	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	99	85·3	59	59·0	11	26·8	6	50·0	175	65·0
Passed three examinations ...	10	8·6	16	16·0	12	29·3	2	16·7	40	14·9
Passed two examinations ...	3	2·6	8	8·0	3	7·3	1	8·3	15	5·6
Passed one examination	3	2·6	11	11·0	9	22·0	3	25·0	26	9·7
Passed no examinations	1	0·9	6	6·0	6	14·6	0	—	13	4·8

Source: Queen's University

TABLE 34

Queen's University, Belfast
Entrance qualification and performance of full-time students who entered the University in 1961

Faculty of Medicine (including School of Dentistry)

Qualification at entrance

Entrance by General Certificate of Education or equivalent				
Number of Advanced level passes	Students		Other entrants	
	Number	Percentage	Number	Percentage
Four or more	40	36·7	—	—
Three	49	45·0	—	—
Two	8	7·3	—	—
Total	97	89·0	12	11·0

Performance at end of first year

Number of Advanced level passes / Performance	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	33	82·5	42	85·7	5	62·5	8	66·7	88	80·7
Passed two examinations ...	2	5·0	4	8·2	2	25·0	1	8·3	9	8·3
Passed no examinations	5	12·5	3	6·1	1	12·5	3	25·0	12	11·0

Source: Queen's University

TABLE 35

Queen's University, Belfast
Entrance qualification and performance of full-time students who entered the University in 1961

Faculty of Applied Science and Technology

Qualification at entrance

Number of Advanced level passes	Entrance by General Certificate of Education or equivalent		Other entrants	
	Students			
	Number	Percentage	Number	Percentage
Four or more	73	39.0	—	—
Three	64	34.2	—	—
Two	25	13.4	—	—
Total	162	86.6	25	13.4

Performance at end of first year

Number of Advanced level passes / Performance	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	70	95·9	46	71·9	10	40·0	13	52·0	139	74·3
Passed three examinations ...	3	4·1	6	9·4	4	16·0	3	12·0	16	8·6
Passed two examinations ...	—	—	5	7·8	6	24·0	5	20·0	16	8·6
Passed one examination	—	—	5	7·8	2	8·0	3	12·0	10	5·3
Passed no examinations	—	—	2	3·1	3	12·0	1	4·0	6	3·2

Source: Queen's University

32167

TABLE 36

Queen's University, Belfast

Primary degrees and diplomas awarded
1954/55

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	5	—	7	3	8	3	1	5	21	11	32	44	48	65	59	124
B.Mus.	—	—	—	—	1	1	—	1	1	2	3	—	—	1	2	3
B.Ed....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.D.	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
B.Sc.*	4	1	7	2	6	—	—	—	17	3	20	38	10	55	13	68
B.Sc.†	9	—	9	—	—	—	—	—	18	—	18	48	1	66	1	67
B.Sc. (Econ.)	—	—	2	—	2	—	—	—	4	—	4	12	—	16	—	16
LL.B.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M.B., B.Ch, B.A.O.	—	—	3	1	—	—	—	—	3	1	4	61	20	64	21	85
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	8	4	8	4	12
B.Agr.	—	—	6	—	—	—	—	—	6	—	6	6	—	12	—	12
Diploma in Fducation	—	—	—	—	—	—	—	—	—	—	—	26	20	26	20	46
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	2	7	2	7	9
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	5	2	5	2	7
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	6	—	6	—	6
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	3	1	3	1	4
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	8	14	8	14	22
Certificate in Radio Engineering	—	—	—	—	—	—	—	—	—	—	—	6	—	6	—	6
Certificate in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass	
	M	W	M	W	M	W	M	W	M	W	Total	M	W
B.A....	1	—	—	—	—	—	—	—	1	—	1	—	—
B.Sc.*	4	—	12	4	4	2	4	—	24	6	30	—	—
B.Sc.†	—	—	—	—	—	—	—	—	—	—	—	2	—
B.Sc. (Econ.)	1	—	1	—	—	—	—	—	2	—	2	—	—

Source: Queen's University

* In pure science.
† In applied science.

TABLE 37

Queen's University, Belfast

Primary degrees and diplomas awarded
1955/56

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	3	3	9	5	11	10	4	5	27	23	50	43	60	70	83	153
B.Mus.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	2
B.D.	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	3
B.Sc.*	9	2	12	3	10	—	3	2	34	7	41	31	14	65	21	86
B.Sc.†	6	—	15	—	—	—	—	—	21	—	21	49	2	70	2	72
B.Sc. (Econ.)	—	—	—	—	2	—	—	1	2	1	3	11	2	13	3	16
LL.B.	—	—	1	—	4	2	10	—	15	2	17	6	2	21	4	25
M.B., B.Ch., B.A.O.	—	—	2	—	—	—	—	—	2	—	2	74	13	76	13	89
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	10	2	10	2	12
B.Agr.	—	—	3	—	—	—	—	—	3	—	3	3	—	6	—	6
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	22	27	22	27	49
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	3	13	3	13	16
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	5	3	5	3	8
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Certificate in Radio Engineering	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
Certificate in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass	
	M	W	M	W	M	W	M	W	M	W	Total	M	W
B.Sc.*	3	—	8	3	7	—	—	2	18	5	23	1	—
B.Sc.†	1	—	1	—	—	—	—	—	2	—	2	2	—
B.Sc. (Econ.)	—	—	—	—	1	—	—	—	1	—	1	—	—

Source: Queen's University

* In pure science.
† In applied science.

TABLE 38

Queen's University, Belfast

Primary degrees and diplomas awarded
1956/57

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	2	2	9	3	20	11	5	5	36	21	57	44	61	80	82	162
B.Mus.	—	—	1	—	1	—	1	—	3	—	3	—	—	3	—	3
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
B.D.	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
B.Sc.*	7	—	5	—	4	1	1	1	17	2	19	39	12	56	14	70
B.Sc.†	12	—	11	—	—	—	—	—	23	—	23	38	—	61	—	61
B.Sc. (Econ.)	—	—	3	—	5	1	—	—	8	1	9	25	—	33	1	34
LL.B.	1	—	—	1	4	1	4	—	9	2	11	—	—	9	2	11
M.B., B.Ch., B.A.O.	—	—	4	1	—	—	—	—	4	1	5	51	15	55	16	71
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	9	2	9	2	11
B.Agr.	1	—	3	—	—	—	—	—	4	—	4	6	—	10	—	10
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	28	17	28	17	45
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	2	15	2	15	17
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	3
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	2	3	2	3	5
Certificate in Radio Engineering ...	—	—	—	—	—	—	—	—	—	—	—	6	—	6	—	6

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass	
	M	W	M	W	M	W	M	W	M	W	Total	M	W
B.Sc.*	4	2	9	1	6	4	—	—	19	7	26	1	—

Source: Queen's University

* In pure science.
† In applied science.

TABLE 39

Queen's University, Belfast

Primary degrees and diplomas awarded
1957/58

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	2	—	4	6	15	10	2	7	23	23	46	32	55	55	78	133
B.Mus.	—	—	—	—	—	—	—	1	—	1	1	—	—	—	1	1
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	4	—	4	—	4
B.D.	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
B.Sc.*	14	—	9	1	1	1	1	—	25	2	27	38	18	63	20	83
B.Sc.†	9	—	19	—	—	—	—	—	28	—	28	52	—	80	—	80
B.Sc. (Econ.)	—	—	1	—	3	—	—	—	4	—	4	24	1	28	1	29
LL.B.	1	—	2	1	7	—	2	—	12	1	13	2	1	14	2	16
M.B., B.Ch., B.A.O.	1	—	3	2	—	—	—	—	4	2	6	46	10	50	12	62
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	7	2	7	2	9
B.Agr.	—	—	3	—	—	—	1	—	4	—	4	6	—	10	—	10
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	24	25	24	25	49
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	—	11	—	11	11
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	6	2	6	2	8
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	3	1	3	1	4
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	4
Certificate in Radio Engineering ...	—	—	—	—	—	—	—	—	—	—	—	6	—	6	—	6

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours		
	M	W	M	W	M	W	M	W	M	W	Total
B.A.	—	—	—	—	—	—	2	—	2	—	2
B.Sc.*	8	—	8	4	10	4	3	—	29	8	37
B.Sc. (Econ.)	—	—	—	—	1	—	2	—	3	—	3

Source: Queen's University

*In pure science.
†In applied science.

TABLE 40

Queen's University, Belfast

Primary degrees and diplomas awarded
1958/59

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	7	1	20	3	9	18	7	6	43	28	71	39	60	82	88	170
B.Mus.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	4	1	4	1	5
B.D.	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	3
B.Sc.*	9	—	10	—	6	3	—	1	25	4	29	40	9	65	13	78
B.Sc.†	7	1	20	—	—	—	—	—	27	1	28	34	—	61	1	62
B.Sc. (Econ.)	—	—	1	1	1	—	1	—	3	1	4	34	—	37	1	38
LL.B.	1	—	2	1	1	1	6	—	10	2	12	1	—	11	2	13
M.B., B.Ch., B.A.O.	1	—	7	—	—	—	—	—	8	—	8	41	11	49	11	60
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	10	5	10	5	15
B.Agr.	1	—	2	—	—	—	—	—	3	—	3	7	—	10	—	10
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	18	15	18	15	33
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	1	9	1	9	10
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	3	1	3	1	4
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	3	8	3	8	11
Certificate in Radio Engineering ...	—	—	—	—	—	—	—	—	—	—	—	*1*	—	*1*	—	*1*

Degree	Honours certificates													
	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass	
	M	W	M	W	M	W	M	W	M	W	Total	M	W
B.Sc.*	7	1	8	1	9	3	2	—	26	5	31	1	—
B.Sc. (Econ.)	—	—	1	—	—	—	2	—	3	—	3	—	—

Source: Queen's University

* In pure science.
† In applied science.

TABLE 41

Queen's University, Belfast

Primary degrees and diplomas awarded
1959, 60

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	3	2	10	11	18	12	7	6	38	31	69	56	56	94	87	181
B.Mus.	—	—	—	1	1	—	—	—	1	1	2	—	—	1	1	2
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	2	1	2	1	3
B.D.	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
B.Sc.*	17	1	25	1	10	1	6	1	58	4	62	35	6	93	10	103
B.Sc.†	12	—	6	—	20	—	—	—	38	—	38	41	—	79	—	79
B.Sc. (Econ.)	—	—	2	—	2	1	1	—	5	1	6	45	—	50	1	51
LL.B.	1	—	4	—	2	—	4	—	11	—	11	3	1	14	1	15
M.B., B.Ch., B.A.O.	—	—	4	1	—	—	—	—	4	1	5	52	10	56	11	67
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	12	4	12	4	16
B.Agr.	—	—	—	—	1	—	—	—	1	—	1	8	—	9	—	9
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	32	15	32	15	47
Diploma in Social Studies ...	—	—	—	—	—	—	—	—	—	—	—	2	12	2	12	14
Diploma in Public Health ...	—	—	—	—	—	—	—	—	—	—	—	4	2	4	2	6
Licence in Dental Surgery ...	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	2
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	4	1	4	1	5

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours		
	M	W	M	W	M	W	M	W	M	W	Total
B.Sc.*	6	1	6	2	7	1	9	—	28	4	32
B.Sc. (Econ.)	—	—	1	—	—	—	3	—	4	—	4

Source: Queen's University

*In pure science.
†In applied science.

TABLE 42

Queen's University, Belfast

Primary degrees and diplomas awarded
1960/61

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	7	3	21	10	22	18	6	4	56	35	91	45	55	101	90	191
B.Mus.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.Ed.	—	—	—	—	—	—	—	—	—	—	—	5	1	5	1	6
B.D.	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
B.Sc.*	16	—	27	4	15	3	4	1	62	8	70	50	26	112	34	146
B.Sc.†	14	1	8	—	14	1	—	—	36	2	38	58	5	94	7	101
B.Sc. (Econ.)	—	—	1	—	2	—	1	—	4	—	4	46	6	50	6	56
LL.B.	3	—	—	1	7	—	6	—	16	1	17	3	—	19	1	20
M.B., B.Ch., B.A.O.	1	—	2	—	—	—	—	—	3	—	3	46	12	49	12	61
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	12	6	12	6	18
B.Agr.	3	—	1	—	—	—	2	—	6	—	6	6	—	12	—	12
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	46	19	46	19	65
Diploma in Social Studies	—	—	—	—	—	—	—	—	—	—	—	3	2	3	2	5
Diploma in Public Health	—	—	—	—	—	—	—	—	—	—	—	5	2	5	2	7
Licence in Dental Surgery	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	8	15	8	15	23

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours		
	M	W	M	W	M	W	M	W	M	W	Total
B.A.	—	—	1	—	—	—	—	—	1	—	1
B.Sc.*	5	1	11	—	6	—	1	—	23	1	24
B.Sc.†	—	—	—	—	2	—	—	—	2	—	2
B.Sc. (Econ.)	—	—	2	—	2	—	2	—	6	—	6

Source: Queen's University

* In pure science.
† In applied science.

TABLE 43

Queen's University, Belfast

Primary degrees and diplomas awarded
1961/62

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	3	2	17	17	24	14	4	6	48	39	87	56	69	104	108	212
B.Mus.	—	—	—	1	—	—	—	1	—	1	1	—	—	—	1	1
B.Ed.*	—	—	—	—	—	—	—	—	—	—	—	3	—	3	—	3
B.Ed.†	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	2
B.D.	—	—	—	—	—	—	—	—	—	—	—	2	1	2	1	3
B.Sc.‡	11	3	35	3	21	3	8	—	75	9	84	56	17	131	26	157
B.Sc.§	14	—	17	1	15	1	—	—	46	2	48	59	2	105	4	109
B.Sc. (Econ.)	—	—	—	—	—	—	—	—	—	—	—	53	—	53	—	53
LL.B.	1	—	5	—	6	2	11	2	23	4	27	4	—	27	4	31
M.B., B.Ch., B.A.O.	—	—	2	—	—	—	—	—	2	—	2	46	10	48	10	58
B.D.S.	—	—	1	—	—	—	—	—	1	—	1	18	3	19	3	22
B.Agr.	2	—	3	—	—	—	—	—	5	—	5	3	—	8	—	8
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	33	28	33	28	61
Diploma in Social Studies... ...	—	—	—	—	—	—	—	—	—	—	—	—	14	—	14	14
Diploma in Public Health... ...	—	—	—	—	—	—	—	—	—	—	—	5	3	5	3	8
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diploma in Numerical Mathematics	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours		
	M	W	M	W	M	W	M	W	M	W	Total
B.A.	—	—	1	—	—	—	—	—	1	—	1
B.Sc.‡	3	—	7	7	7	4	7	1	24	12	36
B.Sc. (Econ.)	—	—	4	—	3	1	—	—	7	1	8

Source: Queen's University

* In education.
† In psychology.
‡ In pure science.
§ In applied science.

TABLE 44

Queen's University, Belfast

Primary degrees and diplomas awarded
1962/63

Degree or diploma	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours			Pass or general		Total degrees and diplomas		
	M	W	M	W	M	W	M	W	M	W	Total	M	W	M	W	Total
B.A.	1	2	13	10	24	15	7	5	45	32	77	70	90	115	122	237
B.Mus.	—	—	—	—	1	—	—	1	1	1	2	—	—	1	1	2
B.Ed.*	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
B.Ed.†	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	2
B.D.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B.Sc.‡.	12	1	28	4	19	2	5	1	64	8	72	59	18	123	26	149
B.Sc.§	11	1	16	1	22	—	—	—	49	2	51	61	3	110	5	115
B.Sc. (Econ.)	—	—	1	—	—	—	—	—	1	—	1	54	4	55	4	59
LL.B.	2	—	2	—	5	1	3	2	12	3	15	2	2	14	5	19
M.B., B.Ch., B.A.O.	—	—	4	—	—	—	—	—	4	—	4	42	12	46	12	58
B.D.S.	—	—	—	—	—	—	—	—	—	—	—	15	5	15	5	20
B.Agr.	2	—	6	—	—	—	—	—	8	—	8	9	—	17	—	17
Diploma in Education	—	—	—	—	—	—	—	—	—	—	—	44	28	44	28	72
Diploma in Social Studies... ...	—	—	—	—	—	—	—	—	—	—	—	—	12	—	12	12
B.A. and Diploma in Social Studies	—	—	—	—	—	—	—	—	—	—	—	1	4	1	4	5
Diploma in Public Health... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diploma in Public Administration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Certificate in Biblical Studies ...	—	—	—	—	—	—	—	—	—	—	—	*10*	*5*	*10*	*5*	*15*

Honours certificates

Degree	Honours 1		Honours 2 (i)		Honours 2 (ii)		Honours 3		Total honours		
	M	W	M	W	M	W	M	W	M	W	Total
B.A.	—	—	1	—	—	1	—	—	1	1	2
B.Sc.‡	7	—	11	4	14	5	8	2	40	11	51
B.Sc. (Econ.)	—	—	2	—	6	—	2	—	10	—	10

Source: Queen's University

* In education.
† In psychology.
‡ In pure science.
§ In applied science.

TABLE 45

Queen's University, Belfast

Primary degrees and diplomas awarded

1954/55–1962/63

Degree or diploma	Academic Year	1954/55			1955/56			1956/57			1957/58			1958/59			1959/60			1960/61			1961/62			1962/63		
		M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total
B.A.		65	59	124	70	83	153	80	82	162	55	78	133	82	88	170	94	87	181	101	90	191	104	108	212	115	122	237
B. Mus.		1	2	3	—	—	—	3	—	3	—	1	1	—	—	—	1	1	2	—	—	—	—	1	1	1	1	2
B. Ed.		—	—	—	1	1	2	—	1	1	4	—	4	4	1	5	2	1	3	5	1	6	4	1	5	3	—	3
B.D.		2	—	2	3	—	3	2	—	2	1	—	1	3	—	3	2	—	2	1	—	1	2	1	3	—	—	—
B.Sc.*		55	13	68	65	21	86	56	14	70	63	20	83	65	13	78	93	10	103	112	34	146	131	26	157	123	26	149
B.Sc.†		66	1	67	70	2	72	61	—	61	80	—	80	61	1	62	79	—	79	94	7	101	105	4	109	110	5	115
B.Sc.(Econ.)		16	—	16	13	3	16	33	1	34	28	1	29	37	1	38	50	1	51	50	6	56	53	—	53	55	4	59
LL.B.		—	—	—	21	4	25	9	2	11	14	2	16	11	2	13	14	1	15	19	1	20	27	4	31	14	5	19
M.B., B.Ch., B.A.O. ...		64	21	85	76	13	89	55	16	71	50	12	62	49	11	60	56	11	67	49	12	61	48	10	58	46	12	58
B.D.S.		8	4	12	10	2	12	9	2	11	7	2	9	10	5	15	12	4	16	12	6	18	19	3	22	15	5	20
B.Agr.		12	—	12	6	—	6	10	—	10	10	—	10	10	—	10	9	—	9	12	—	12	8	—	8	17	—	17
Diploma in Education ...		26	20	46	22	27	49	28	17	45	24	25	49	18	15	33	32	15	47	46	19	65	33	28	61	44	28	72
Diploma in Social Studies ...		2	7	9	3	13	16	2	15	17	—	11	11	1	9	10	2	12	14	3	2	5	—	14	14	1	16	17
Diploma in Public Health ...		5	2	7	5	3	8	—	—	—	6	2	8	—	—	—	4	2	6	5	2	7	5	3	8	—	—	—
Licence in Dental Surgery ...		6	—	6	—	—	—	—	1	1	1	—	1	3	1	4	1	1	2	1	—	1	—	—	—	—	—	—
Diploma in Public Administration		3	1	4	2	—	2	3	—	3	3	1	4	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—
Diploma in Numerical Mathematics		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—
Certificate in Biblical Studies		8	14	22	—	—	—	2	3	5	2	2	4	3	8	11	4	1	5	8	15	23	—	—	—	10	5	15
Certificate in Radio Engineering		6	—	6	2	—	2	6	—	6	6	—	6	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Certificate in Public Health		—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source: Queen's University

* In pure science. † In applied science.

TABLE 46

Queen's University, Belfast
Higher degrees awarded*
1954/55–1962/63

Degree \ Academic year	1954/55			1955/56			1956/57			1957/58			1958/59			1959/60			1960/61			1961/62			1962/63		
	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total	M	W	Total
D.Sc.	1	—	1	4	—	4	2	—	2	1	—	1	2	—	2	—	—	—	2	—	2	2	—	2	—	—	—
D.Lit.	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph.D. Arts	5	1	6	4	1	5	3	—	3	2	1	3	3	—	3	—	—	—	3	—	3	2	—	2	3	1	4
Science	11	—	11	13	—	13	16	—	16	12	2	14	17	3	20	12	—	12	13	1	14	15	3	18	30	—	30
Law	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medicine	1	—	1	1	—	1	2	—	2	—	—	—	1	—	1	2	—	2	—	—	—	—	—	—	3	—	3
Dentistry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	
Economics	—	—	—	1	—	1	—	—	—	1	—	1	—	1	1	1	—	1	—	—	—	1	—	1	1	—	1
Applied Science ...	1	—	1	5	—	5	2	—	2	4	—	4	4	—	4	7	—	7	5	—	5	4	—	4	7	—	7
Agriculture	4	—	4	2	—	2	3	—	3	1	—	1	—	—	—	3	—	3	4	—	4	1	—	1	1	—	1
Theology	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	4	—	4	—	—	—	—	—	—	—	—	—
M.D.	7	4	11	2	1	3	8	—	8	6	—	6	9	1	10	8	—	8	12	1	13	8	—	8	8	5	13
M.A.	4	3	7	3	1	4	3	1	4	5	1	6	9	3	12	6	—	6	7	1	8	9	1	10	6	—	6
LL.M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	1	—	1
M.Sc.†	13	1	14	5	—	5	3	—	3	6	1	7	5	2	7	8	3	11	7	1	8	9	1	10	12	3	15
M.Sc.‡ ...	2	—	2	7	—	7	3	—	3	3	—	3	8	—	8	8	—	8	8	—	8	4	—	4	9	—	9
M.Sc. (Econ.)	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—
M. Agr.	1	—	1	2	—	2	1	—	1	—	—	—	—	—	—	1	—	1	3	—	3	2	—	2	1	—	1
M. Ch.	—	—	—	1	—	1	2	—	2	1	—	1	—	—	—	2	—	2	—	—	—	2	—	2	3	—	3
M.D.S.	—	—	—	1	—	1	1	—	1	—	—	—	—	—	—	1	—	1	4	—	4	1	—	1	—	—	—

Source: Queen's University

* Excluding honorary degrees. † In pure science. ‡ In applied science.

TABLE 47

Queen's University, Belfast

Student/staff ratio

1938/39–1963/64

Academic year	Full-time students	Full-time teachers	Full-time students per full-time teacher
1938/39	1,592	136*	11·7
1948/49	2,392	171	14·0
1949/50	2,361	193	12·2
1950/51	2,289	197	11·6
1951/52	2,251	219	10·3
1952/53	2,211	246	9·0
1953/54	2,182	260	8·4
1954/55	2,119	281	7·5
1955/56	2,171	297	7·3
1956/57	2,245	302	7·4
1957/58	2,409	308	7·8
1958/59	2,691	307	8·8
1959/60	3,001	349	8·6
1960/61	3,319	383	8·7
1961/62	3,741	404	9·3
1962/63	3,821	432	8·8
1963/64	4,135	472	8·8

Source: Queen's University.

* Includes part-time teachers.

TABLE 48

Queen's University, Belfast

Grade of teachers

1927/28–1963/64

Academic year	Professors	Readers	Senior lecturers	Lecturers	Assistant lecturers and others	Total
1927/28	30	1	—	36	48	115
1934/35	28	2	—	43	56	129
1938/39	28	2	—	47	59	136
1949/50	34	6	—	71	82	193
1954/55	41	18	13	83	126	281
1958/59	47	25	21	99	115	307
1963/64	56	32	38	203	143	472

Source: Queen's University

TABLE 49

Queen's University, Belfast
Grade of teachers, by faculty or department
1963/64

Faculty or department	Professors	Readers	Senior lecturers	Lecturers	Assistant lecturers	Others	Total
Arts	12	8	8	39	14	6	87
Economics	3	—	3	9	7	4	26
Law	3	—	—	8	1	2	14
Science	13	8	9	55	12	18	115
Applied Science	5	3	7	22	14	2	53
Medicine	15	7	3	56	42	4	127
Agriculture	5	4	8	10	17	—	44
Extra-Mural	—	2	—	4	—	—	6
Total	56	32	38	203	107	36	472

Source: Queen's University

TABLE 50

Queen's University, Belfast
Higher degrees held by teachers, by faculty or department
1963/64

Faculty or department	Doctorate	Master's degree	No higher degree	Total
Arts	30	35	22	87
Economics	7	5	14	26
Law	2	4	8	14
Science	73	18	24	115
Applied Science	21	14	18	53
Medicine	56	15	56	127
Agriculture	17	6	21	44
Extra-Mural	1	4	1	6
Total	207	101	164	472
Percentage	44	21	35	100

Source: Queen's University

TABLE 51

Queen's University, Belfast
Age of teachers, by faculty or department
1963/64

Faculty or department	50 and over	40–49	30–39	Under 30	Not* recorded	Total
Arts	13	21	29	23	1	87
Economics	4	4	7	11	0	26
Law	2	3	4	4	1	14
Science	10	18	40	47	0	115
Applied Science ...	7	8	12	26	0	53
Medicine	23	28	35	32	9	127
Agriculture	11	15	11	5	2	44
Extra-Mural ...	2	1	1	1	1	6
Total	72	98	139	149	14	472

Source: Queen's University

* The ages of teachers in certain posts, e.g. clinical lecturers, medical tutors and special assistant lecturers, are not necessarily known as this information is not required for University purposes.

TABLE 52

Queen's University, Belfast

University group in which teachers graduated, by faculty or department

1963/64

Faculty or department	Queen's University, Belfast	Oxford and Cambridge	London	Other English universities	Wales	Scotland	Dublin University	National University of Ireland	Universities overseas	None	Not* recorded	Total	Queen's University graduates as percentage of total recorded
Arts	15	29	7	7	2	6	3	3	10	1	4	87	18
Economics ...	6	2	7	3	1	—	3	2	—	1	1	26	24
Law	3	4	3	2	—	—	—	—	1	—	1	14	23
Science... ...	54	11	11	16	7	6	4	1	3	1	1	115	47
Applied Science	26	1	7	9	—	1	—	2	1	1	5	53	54
Medicine ...	71	8	8	7	—	9	2	2	4	4	12	127	62
Agriculture ...	22	1	3	5	1	6	—	2	—	2	2	44	52
Extra-Mural ...	—	2	1	1	—	—	1	—	1	—	—	6	—
Total ...	197	58	47	50	11	28	13	12	20	10	26	472	44

Source: Queen's University

* Information is not available in the case of certain posts in the Faculty of Medicine which rotate each year and in the case of some temporary appointments of junior staff which are made on the recommendation of departmental heads.

TABLE 53

Queen's University, Belfast

University group in which teachers graduated, by grade

1963/64

Grade	Queen's University, Belfast	Oxford and Cambridge	London	Other English universities	Wales	Scotland	Dublin University	National University of Ireland	Universities overseas	None	Not* recorded	Total	Queen's University graduates as percentage of total recorded
Professors ...	10	17	11	4	2	4	2	1	3	2	—	56	18
Readers ...	12	10	2	5	—	2	—	—	1	—	—	32	38
Senior lecturers	14	4	6	4	1	4	1	1	1	2	—	38	37
Lecturers ...	84	22	18	29	7	10	7	7	9	4	6	203	43
Assistant lecturers ...	55	5	9	8	1	8	3	2	2	1	13	107	58
Other grades ...	22	—	1	—	—	—	—	1	4	1	7	36	76
Total ...	197	58	47	50	11	28	13	12	20	10	26	472	44

Source: Queen's University

* Information is not available in the case of certain posts in the Faculty of Medicine which rotate each year and in the case of some temporary appointments of junior staff which are made on the recommendation of departmental heads.

TABLE 54

Queen's University, Belfast

Number of United Kingdom universities other than Queen's University in which teachers have held posts, by grade
1963/64

Grade	Three or more	Two	One	None	Not* recorded	Total
Professors	1	10	24	21	—	56
Readers	—	4	7	21	—	32
Senior lecturers	1	2	9	26	—	38
Lecturers	1	11	51	137	3	203
Assistant lecturers	—	2	9	91	5	107
Other grades	—	—	—	34	2	36
Total	3	29	100	330	10	472

Source: Queen's University

* Information is not available in the case of certain posts in the Faculty of Medicine which rotate each year and in the case of some temporary appointments of junior staff which are made on the recommendation of departmental heads.

TABLE 55

Queen's University, B

Current country of residence of graduates who obtainc

Country	B.A.			B.Sc.			M.B.			B.D.S.			LL.B.			B.Sc.(Econ	
	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)
Northern Ireland ...	868	511	394	847	95	116	742	99	120	16	2	1	180	12	8	212	23
Irish Republic	44	20	25	34	2	8	28	8	5	—	—	—	3	—	—	3	1
England	71	45	114	200	12	44	703	69	84	5	—	—	12	—	4	21	—
Scotland	8	—	10	11	1	6	13	3	5	1	—	—	—	—	—	2	—
Wales	2	2	2	6	1	2	25	4	—	—	—	—	1	—	—	1	—
Channel Isles	—	1	—	1	—	—	2	2	—	—	—	—	1	—	—	—	—
Isle of Man	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Australia	1	—	—	6	—	2	19	—	3	—	—	—	—	—	—	—	—
New Zealand	2	—	1	5	—	—	7	—	1	—	—	—	—	—	—	—	—
Canada	7	1	6	23	—	3	40	1	2	1	—	—	1	—	—	1	—
Cyprus	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nigeria	2	1	—	—	—	—	4	1	—	—	—	—	—	—	—	—	—
South Africa	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rhodesia	2	1	—	4	—	—	5	—	—	—	—	—	—	—	—	—	—
Egypt	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	1	—
Africa	—	—	—	10	1	—	32	1	1	—	—	—	—	—	—	4	—
U.S.A.	8	3	4	7	—	3	13	2	1	—	—	—	—	—	—	—	—
South America ...	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
France	—	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Germany	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Switzerland	1	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—
Belgium	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Denmark	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Falkland Isles	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
India	—	—	2	3	—	—	2	2	1	—	—	—	15	—	—	—	—
Japan	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
China	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—
Ceylon	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaya	1	—	—	1	—	—	1	—	—	—	—	—	1	—	—	2	—
Persia	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Borneo	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Burma	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
West Indies	—	1	—	3	—	1	11	1	—	1	—	—	—	—	—	—	—
Address unknown but probably overseas ...	171	132	63	284	26	11	75	27	10	1	—	—	39	3	2	33	3
Total	1,192	723	623	1,456	139	198	1,724	220	233	25	2	1	253	15	15	280	28

Source: Queen's University 1963 Voters Roll

* It has been assumed that most graduates are reasonabl

sity, Belfast

obtained primary degrees in 1953 or earlier*

(Econ.)		B.Ed.			B.Mus.			B.Agr.			B.D.			Total			Total	Percentage
W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)	M	W(S)	W(M)		
20	21	8	1	1	1	2	2	113	—	1	26	—		3,013	742	664	4,419	59·9
1	1	—	—	—	—	—	—	1	—	—	2	—	—	115	31	39	185	2·5
	7	1	1	1	—	—	—	12	—	—	3	—	—	1,028	127	254	1,409	19·1
			1		—	—	—	1	—	—	1	—	—	37	5	21	63	0 8
1	1	—	—	—	—	—	—		—	—	1	—	—	37	7	5	49	0·7
		—	—	—	—	—	—	1	—	—	—	—	—	5	3	—	8	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2	.
		—	—	—	—	—	—	—	—	—	—	—	—	26	—	5	31	.
		—	—	—	—	—	—	—	—	—	—	—	—	14	—	2	16	.
2		—	—	—	—	—	—	—	—	—	1	—	—	74	2	13	89	1 2
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	1	—	—	—	—	—	7	2	—	9	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	2	—	3	.
		—	—	—	—	—	—	—	—	—	—	—	—	11	1	—	12	.
		—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	3	.
		—	—	—	—	—	—	4	—	—	—	—	—	50	2	1	53	0·7
1		—	—	—	—	—	—	—	—	—	—	—	—	28	5	9	42	0·6
		—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2	.
		—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	3	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	3	.
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	.
		—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	—	—	—	—	—	—	20	2	3	25	0·3
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	2	.
		—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	3	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	3	—	—	—	—	—	9	—	—	9	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	1	—	—	—	—	—	2	—	—	2	.
		—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	.
		—	—	—	—	—	—	1	—	—	—	—	—	16	2	1	19	.
2	2	—	—	1	—	—	19	—	—	2	—	—	627	193	88	908	12·3	
35	12	3	2	2	2	2	157	—	1	36	—	—	5,137	1,130	1,110	7,377		

ettled in their careers 10 years after graduation.

TABLE 57

Queen's University, Belfa

Occupations etc. entered by 1962 graduates in A

Academic subject(s) / Occupation etc.	Further studies		Employment overseas		Teacher training		Secretarial training		Training in social work		Other specialised training courses		Ordinands		Overseas students returned overseas		Civil Service		Armed Services		Health Services		Teaching		Temporary employment abroad	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Law	4	—	—	—	—	—	—	1	—	—	—	—	—	—	5	—	2	—	—	—	1	—	—	—	—	—
Economics	14	—	—	—	1	—	—	—	1	—	—	—	—	—	6	1	1	—	—	—	—	—	2	—	—	—
Psychology	2	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	—	—
History	1	—	—	—	3	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Geography	4	1	—	—	5	—	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	3	4	—	—
English	1	2	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—	1
Medieval and modern languages and literature	2	—	—	—	6	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	4	2	1
Classics	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Philosophy	3	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Music	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Divinity	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Pass Arts	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—
General Arts	4	3	—	—	18	25	—	4	—	6	—	—	—	—	1	—	—	—	—	—	—	—	6	8	6	4
Total	37	6	—	1	33	33	—	6	1	7	—	—	3	—	12	1	3	—	—	—	1	2	16	28	9	7

Source: Queen's University

ersity, Belfast

adiates in Arts, Economics and Law

	Temporary teaching abroad		Engineering industry		Chemistry and allied industry		Oil industry		Local Government		Public Corporations		Accountancy and Insurance		Legal training		Research Associations, etc.		Textile industry		Food industry		Pharmacy apprenticeship		Others		Total		
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	Total
	6	1	4		1		1		2				7	1	9	3	1		1		3		1		46	16	168
	2		1										3		1						1				6	12	45
	1		1																		2				1		3
	1																								1		1

Qu

Academic subject(s)	Occupation etc	Further studies		Employment overseas		Teacher training		Secretarial training		Training in social work		Other specialised training courses		Ordinands		Overseas students returned overseas		Civil Service		Armed Services		Health Services		
		M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Mathematics	... ...	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Physics	... ...	24	1	—	—	3	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	
Chemistry	... ...	14	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
Biological Sciences	...	5	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Geology	... ...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Agriculture	... ...	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	3	—	—	—	—	
General Science - pass	...	42	12	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	3	
Civil Engineering—honours		5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	
Civil Engineering—pass	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	
Electrical Engineering—honours		3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	
Electrical Engineering - pass		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Mechanical Engineering—honours		1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Mechanical Engineering pass		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Aeronautical Engineering—honours		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Aeronautical Engineering—pass		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	1	
Chemical Technology and Pharmacy		3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	
Total	... ...	104	19	1	—	4	2	—	—	—	1	—	—	—	—	2	—	6	—	3	—	1	1	

Occupations etc. entered

Source: Queen's University

TABLE 58

Queen's University, Belfast

...tered by 1962 graduates in Science and Technology

Health Services		Teaching		Temporary teaching abroad		Engineering industry		Chemistry and allied industry		Oil industry		Local Government		Public Corporations		Accountancy and Insurance		Legal training		Research Associations, etc.		Textile industry		Food industry		Pharmacy apprenticeship		Others		Total		
M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	Total
–	–	4	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	3	1	15	1	16
–	–	4	2	–	–	6	1	–	–	1	–	–	–	4	1	–	–	–	–	1	–	1	1	1	–	–	–	6	–	52	7	59
1	–	5	4	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	2	–	22	8	30
–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	5	10
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	8	–	8
–	–	3	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	–	1	–	6	2	55	17	72
–	–	–	–	–	–	12	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	20	–	20
–	–	–	–	–	–	12	–	–	–	–	–	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	–	26	–	26
–	–	–	–	–	–	3	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	10	–	10
–	–	–	–	–	–	8	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	12	–	12
–	–	–	–	–	–	2	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	7	–	7
–	–	–	–	–	–	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	11	–	11
–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	1
–	1	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	5
–	2	1	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	2	–	–	–	1	3	2	–	13	4	17		
1	19	8		–	–	56	1	5	–	1	–	7	–	8	2	–	–	–	–	3	1	3	2	2	–	1	3	36	3	263	42	305

TABLE 59

Queen's University, Bell

Occupations etc. entered by 1963 graduates in

Occupation etc / Academic subject(s)	Further studies		Employment overseas		Teacher training		Secretarial training		Training in social work		Other specialised training courses		Ordinands		Overseas students returned overseas		Civil Service		Armed Services		Health Services		Universities		Teaching		Temporary teaching	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Law	3	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Economics	10	1	1	—	1	—	—	—	—	—	—	—	2	—	5	—	1	—	1	—	—	—	1	—	3	—	—	—
Psychology	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
History	—	1	—	—	2	1	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	1	1	2	—	—
Geography	2	—	1	1	5	1	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	2	—	2	2	—	—
English	2	2	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	2	—	2	—	—
Medieval and modern languages and literature	2	1	—	—	1	1	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	6	5	1	—
Classics	1	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Scholastic Philosophy ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Music	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
Divinity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Arts	5	3	—	—	34	45	—	5	—	1	—	—	1	—	1	2	—	—	—	—	—	1	—	—	5	7	1	—
Total	26	11	2	1	44	49	—	5	—	1	—	—	7	—	8	2	6	1	1	—	—	1	4	3	18	20	2	—

Source: Queen's University

Teaching			Temporary teaching abroad		Engineering industry		Chemistry and allied industry		Oil industry		Local Government		Public Corporations		Accountancy, Banking and Insurance		*Legal training*		Research Associations, etc.		Textile industry		Food and Tobacco industry		Pharmacy apprenticeship		Others		Total		
M	W	Total	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	Total
20	7	27	2	6	5	1	—	—	—	—	3	2	1	1	14	4	1	—	7	1	—	—	1	—	—	—	—	—	39	8	47
1	—	1	1	3	1	1	—	—	—	—	1	—	—	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	4	1	5
2	1	3	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	—	—	4	—	4
5	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	1	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3
1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1

Queen's

Occupation etc. / Academic subject(s)	Further studies		Employment overseas		Teacher training		Secretarial training		Training in social work		Other specialised training courses		Ordinands		Overseas students returned overseas		Civil Service		Armed Services		Health Services		Universities	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Mathematics	7		2	—	2	1		—		—		—		—		—		—		—		—		—
Physics	12	2	2	—	6	1		—		—		—		—		—		—		—		1		—
Chemistry	21		1	—	1			—		—		—		—	1	—		—		—		1		—
Biological Sciences	9	2		—	—	—		—		—		—		—		—		—		—		—		1
Geology	2					—		—		—		—		—		—		—		—		—		1
Agriculture	8			—	—		—		—		—		—			—	—	3			—		—	
General Science pass	42	13	1	—	2	—	—	—	—		—		—	1		—	—	—	1	—	1	—		—
Civil Engineering honours	4		1	—				—		—		—		—	—	—	—	—				—	—	1
Civil Engineering pass			2		—	—		—	—	—	—	—		—	—	2		1	—	—	—	—	—	—
Electrical Engineering honours	4		—	—	1		—	—	—	—	—	—	—	—	—	—	1		—	—	—	—	—	—
Electrical Engineering pass	2		1	—				—	—	—	—	—	—	—	—	—	1	—	—	—				
Mechanical Engineering honours	2			—				—	—	—	—	—	—	—	—	—			—	—	—	—		
Mechanical Engineering pass			1		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aeronautical Engineering honours	1				—		—		—		—		—	—	—	—	—	—			—	—	—	1
Aeronautical Engineering pass		—						—		—		—		—	—		—				—		—	
Chemical Technology and Pharmacy	7																1							
Total	121	17	11		12	2							1		3	1	6	1		1		2	4	

Source: Queen's University

TABLE 60

Queen's University, Belfast

...ers by 1963 graduates in Science and Technology

...	Teaching		Temporary teaching abroad		Engineering industry		Chemistry and allied industry		Oil industry		Local Government		Public Corporations		Accountancy, Banking and Insurance		Legal training		Research Associations etc.		Textile industry		Food and Tobacco industry		Pharmacy apprenticeship		Others		Total		
W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	Total
—	3	3			1	1			—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15	5	20
—	10	1		—	3	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	35	5	40
—	7	3	—	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	34	5	39
—		2			—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	4	14
—	1	—			—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5
—											—	—	—		—	—	—	—	—	—	—	—	2	—	—	—	1	—	14	—	14
—	4	4			2		—	—	—	—	—	—	1		—	—	—	—	—	—	—	—	—	—	—	—	4	—	57	19	76
—			—	—	7	—	1	—	—	—	2	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—	16	—	16
—	—	—		—	10	—	—	—	—	—	4	—	—		—	—	—	—	—	—	—	—	—	—	—	—	3	—	22	—	22
—	—	—	—		5	—	—	—	—	—	—	—	1		—	—	—	—	—	—	—	—	—	—	—	—	1	—	13	—	13
—					7	—	—	—	—	—	—	—	3		—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	—	14
—					4	—	—	—	—	—	—	—			—	—	—	—	—	—	—	—	—	—	—	—	3	—	9	—	9
—	1				4	—		—	1	—	—	—			—	—	—	—	—	—	—	—	—	—	—	—	9	—	15	—	15
—					2	—	—	—	—	—	—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	—	4
—					1	—	—	—	—	—	—	—			—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
—		2			1		1								—	—	—	—	—	—	—	—	—	—	—	—	—	—			
4	—	25	15		48	1	3	1	2	—	6		5		—	—	—	3	—	1	—	1	1	—	1	14	5	19			
															—	—	—	3	—	3	—	1	1	24	1	278	43	321			

TABLE 61

Magee University College, Londonderry
Geographical distribution of full-time students
1963 64

Course / Area	Arts								Natural Sciences				Business Studies						Total	
	1st year		2nd year		3rd year		4th year		1st year		2nd year		Degree course 1st year		Degree course 2nd year		Diploma course			
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Londonderry ... ... (County Borough and County)	9	7	8	3	3	1	3	2	3	2	1	—	1	—	—	—	4	—	32	15
Belfast County Borough ...	8	2	6	—	2	1	4	—	—	—	—	—	2	—	2	—	3	—	27	3
County Antrim	3	8	2	2	2	5	3	1	1	—	—	—	1	—	—	—	—	—	12	16
County Armagh	1	—	1	1	—	—	1	—	—	—	—	—	—	—	—	—	1	—	4	1
County Down	1	2	4	—	2	—	1	—	—	1	—	—	—	—	—	—	—	—	8	3
County Fermanagh	1	3	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	4
County Tyrone	3	2	1	1	—	2	1	—	—	—	—	—	1	—	1	—	2	—	9	5
Northern Ireland	26	24	23	8	9	9	13	3	4	3	1	—	5	—	3	—	10	—	94	47
Great Britain	10	9	9	18	6	8	4	—	—	—	—	—	1	—	3	—	1	—	34	35
Irish Republic	3	5	1	2	3	1	2	—	1	1	—	—	—	—	—	—	3	—	13	9
Other Countries	2	1	3	—	3	—	2	—	—	—	—	—	—	—	1	—	1	—	12	1
Total	41	39	36	28	21	18	21	3	5	4	1	—	6	—	7	—	15	—	153	92

Source: Magee University College

TABLE 62

Magee University College, Londonderry

Entrance qualification and performance of students who entered the College in 1962

Qualification at entrance

Number of Advanced level passes	Entrance by General Certificate of Education or equivalent		Other entrants	
	Students			
	Number	Percentage	Number	Percentage
Four or more	5	5·9	—	—
Three	28	32·9	—	—
Two	44	51·8	—	—
Total	77	90·6	8	9·4

Performance at end of first year

Performance \ Number of Advanced level passes	Four or more		Three		Two		Other entrants		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Passed all examinations	5	100	26	92·8	36	81·8	7	87·5	74	87·1
Passed some examinations	—	—	1	3·6	3	6·8	—	—	4	4·7
Passed no examinations	—	—	1	3·6	5	11·4	1	12·5	7	8·2

Source: Magee University College

TABLE 63

Magee University College, Londonderry

Student staff ratio

1955 56–1963 64

Academic year	Full-time students	Full-time teachers	Full-time students per full-time teacher
1955 56	81	18	4·5
1956 57	92	17	5·4
1957 58	99	18	5·5
1958 59	116	19	6·1
1959 60	132	20	6·6
1960 61	124	19	6·5
1961 62	152	20	7·6
1962 63	210	23	9·1
1963 64	245	27	9·1

Source: Magee University College

TABLE 64

Magee University College, Londonderry

Higher degrees held by teachers, by grade

1963 64

Grade	Doctorate	Master's degree	No higher degree	Total
Professors	4	2	—	6
Senior lecturers	2	—	—	2
Lecturers	1	5	1	7
Assistant lecturers	2	3	7	12
Total	9	10	8	27

Higher degrees held by teachers, by department

1963 64

Department	Doctorate	Master's degree	No higher degree	Total
Arts	7	7	6	20
Natural Sciences	2	1	1	4
Social Science	—	2	1	3
Total	9	10	8	27
Percentage	33	37	30	100

Source: Magee University College

TABLE 67

Magee University College, Londonderry

Number of United Kingdom universities in which teachers have held posts, by grade
1963/64

Grade	Three or more	Two	One	None	Total
Professors	—	1	2	3	6
Senior lecturers	1	—	1	—	2
Lecturers	—	—	2	5	7
Assistant lecturers	—	1	6	5	12
Total	1	2	11	13	27

Source: Magee University College

TABLE 68

Student enrolments in teacher training establishments 1958/59–1963/64

Establishment	Academic year					
	1958/59	1959/60	1960/61	1961/62	1962/63	1963/64
Stranmillis College:						
Men	369	372	359	324	278	275
Women ...	700	654	678	778	844	860
St. Joseph's Training College:						
Men	189	201	218	255	288	302
St. Mary's Training College:						
Women ...	279	308	324	349	387	396
Ulster College of Physical Education:						
Women ...	53	55	57	65	66	70
Belfast College of Art:						
Men	1	1	2	1	3	1
Women ...	4	3	7	12	8	14
Belfast College of Domestic Science:						
Women ...	59	68	78	78	108	132
Department of Education, Queen's University, Belfast:						
Men	19	21	37	33	38	67
Women ...	12	15	19	30	28	48
Total:						
Men	578	595	616	613	607	645
Women ...	1,107	1,103	1,163	1,312	1,441	1,520
Total	1,685	1,698	1,779	1,925	2,048	2,165

Source: Ministry of Education
Queen's University

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TABLE 69

General training colleges

Qualifications of entrants in 1963

College / Number of Advanced level passes	Four or more	Three	Two	One	None	Total
Stranmillis College (Men):						
Normal entry	2	8	16	21	42	89
Mature entry	1	—	4	1	5	11
Total	3	8	20	22	47	100
Stranmillis College (Women):						
Normal entry	1	16	34	45	124	220
Mature entry	—	—	—	2	9	11
Total	1	16	34	47	133	231
St. Joseph's Training College (Men):						
Normal entry	2	23	29	10	17	81
Mature entry	1	1	—	—	5	7
Total	3	24	29	10	22	88
St. Mary's Training College (Women):						
Normal entry	1	18	29	18	37	103
Mature entry	—	1	1	—	4	6
Total	1	19	30	18	41	109
Total	8	67	113	97	243	528

Source: Ministry of Education

TABLE 70

General training colleges

Student/staff ratio
1947/48–1963/64

Academic year	Full-time students		Full-time teachers		Full-time students per full-time teacher	
	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges
1947/48	382	266	30	17	12·7	15·6
1948/49	351	225	31	18	11·3	12·5
1949/50	365	233	35	18	10·4	12·9
1950/51	532	359	40	24	13·3	15·0
1951/52	683	443	42	24	16·3	18·5
1952/53	801	450	58	25	13·8	18·0
1953/54	958	468	65	27	14·7	17·3
1954/55	1,035	484	68	28	15·2	17·3
1955/56	1,064	441	73	29	14·6	15·2
1956/57	1,142	462	75	29	15·2	15·9
1957/58	1,108	468	76	31	14·6	15·1
1958/59	1,069	468	76	33	14·1	14·2
1959/60	1,026	509	74	33	13·9	15·4
1960/61	1,037	542	78	38	13·3	14·3
1961/62	1,102	604	82	39	13·4	15·5
1962/63	1,122	675	95	45	11·8	15·0
1963/64	1,135	698	98	53	11·6	13·2

Source: Ministry of Education

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TABLE 71

General training colleges

Age of teachers, by department
1963/64

Department	50 and over		40–49		30–39		Under 30		Total	
	Stranmillis College	St. Joseph's and St. Mary's Training Colleges	Stranmillis College	St. Joseph's and St. Mary's Training Colleges	Stranmillis College	St. Joseph's and St. Mary's Training Colleges	Stranmillis College	St. Joseph's and St. Mary's Training Colleges	Stranmillis College	St. Joseph's and St. Mary's Training Colleges
Education	9	4	9	2	3	2	2	1	23	9
English	5	3	7	3	4	1	—	1	16	8
Social Studies	1	2	4	3	4	1	—	2	9	8
Mathematics	3	2	2	—	2	—	1	2	8	4
Science	4	—	1	2	3	—	1	2	9	4
Art/Light Crafts	4	2	4	2	3	4	—	—	11	8
Music	3	2	—	1	1	—	1	1	5	4
Physical Education	—	—	3	—	4	1	3	3	10	4
Domestic Science	1	—	2	2	1	—	1	—	5	2
Religious Education	—	—	1	1	1	—	—	—	2	1
Commercial subjects	—	—	—	—	—	—	—	1	—	1
Total	30	15	33	16	26	9	9	13	98	53

Source: Ministry of Education

TABLE 72

General training colleges

University etc. group in which teachers graduated, by grade

1963/64

Grade	Queen's University, Belfast		Universities in Great Britain		Dublin University and National University of Ireland		Universities overseas	Training colleges				Total		Percentage who trained at and now teach in Northern Ireland training colleges	
								Northern Ireland		Great Britain					
	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stranmillis College	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges	Stran-millis College	St. Joseph's and St. Mary's Training Colleges
Principal lecturers	9	5	5	—	1	2	—	1	1	5	1	21	9	5	11
Senior lecturers	10	4	11	1	3	5	1	10	9	8	2	43	21	23	43
Lecturers ...	7	8	2	—	—	3	—	13	8	12	2	34	21	38	38
Assistant lecturers	—	1	—	—	—	1	—	—	—	—	—	—	2	—	—
Total ...	26	18	18	1	4	11	1	24	18	25	5	98	53	24	34

Source: Ministry of Education

TABLE 73

Qualifications of entrants to specialist training establishments in 1963

Establishment \ Number of Advanced level passes	Four or more	Three	Two	One	None	Total
Ulster College of Physical Education: Women	—	—	3	7	14	24
Belfast College of Art: Men	—	—	—	1	—	1
Women	—	1	1	9	3	14
Total	—	1	1	10	3	15
Belfast College of Domestic Science: Women	—	—	4	10	33	47
Total	—	1	8	27	50	86

Source: Ministry of Education

TABLE 74

Persons aged 18 and over in full-time attendance at institutions of further education 1953/54–1962/63

Academic year	Age								Total		
	18		19		20		21 and over				
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Total
1953/54	88	64	58	60	86	47	377	72	609	243	852
1954 55	124	76	88	55	72	56	312	72	596	259	855
1955 56	81	88	90	57	86	40	318	72	575	257	832
1956 57	89	74	85	59	75	44	418	51	667	228	895
1957 58	101	122	98	52	80	45	315	55	594	274	868
1958 59	84	124	97	79	91	43	349	73	621	319	940
1959 60	102	118	72	86	76	67	336	81	586	352	938
1960 61	115	136	89	79	70	55	438	92	712	362	1,074
1961 62	158	184	106	92	70	64	396	88	730	428	1,158
1962/63	206	225	152	143	114	93	455	115	927	576	1,503

Source: Ministry of Education

TABLE 75

National Certificates awarded 1963/64

Subject	Grade	Number of candidates	
		Presented for Certificate	Awarded Certificate
Mechanical Engineering	Higher	114	59
	Ordinary	280	108
Electrical Engineering	Higher	114	60
	Ordinary	204	90
Aeronautical Engineering	Higher	5	4
Chemistry	Higher	15	9
	Ordinary	52	26
Production Engineering	Higher	12	12
Building	Higher	5	4
	Ordinary	38	15
Civil Engineering	Higher	12	8
Naval Architecture	Higher	12	4
	Ordinary	9	5
Applied Physics	Higher	5	5
	Ordinary	7	4
Applied Biology	Higher	3	3
	Ordinary	11	6
Business Studies	Higher	18	18
	Ordinary	6	3

Source: Ministry of Education

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TABLE 76

Student enrolment in the Belfast College of Art 1962/63 and 1963/64

Course	Total enrolment		"O" level attainment at entry			
			1962		1963	
	1962/63	1963/64	Four subjects	Five or more subjects	Four subjects	Five or more subjects
Art						
Preliminary year... ...	71	75	1	58	3	60
Diploma course	104	126	1	87	2	105
Teacher training course...	11	15	—	11	—	15
Architecture						
Full-time students ...	67	109	—	67	—	109
Part-time students ...	30	13	—	30	—	13

Source: Ministry of Education

TABLE 77

Qualifications of entrants to Loughry Agricultural College in 1962 and 1963

Course	1962			1963		
	Men	Women	Total	Men	Women	Total
Diploma Course						
"A" levels						
2 or more	6	—	6	2	—	2
1 only	3	—	3	4	1	5
"O" levels only						
5 or more	8	2	10	7	2	9
1–4	—	—	—	—	—	—
One-Year Certificate Course						
"O" levels						
5 or more	3	1	4	2	2	4
1–4	1	2	3	1	2	3
Others	9	12	21	9	9	18
Total	30	17	47	25	16	41

Source: Ministry of Agriculture

TABLE 78

Qualifications of entrants from Northern Ireland to Trinity College, Dublin in 1963

Qualification	Number
Three or more " A " levels	89
Two " A " levels	23
Combination of General Certificate of Education and Dublin University matriculation examination ...	8
Leaving Certificate of the Department of Education of the Irish Republic	2
Combination of General Certificate of Education and other certificates	8
Total	130

Source: Trinity College, Dublin

TABLE 79

University graduates employed in industry and commerce in Northern Ireland in 1964

Degree	University location	Present duties			
		Administration	Management trainee	Personnel	Technical
B.A., M.A. ...	Northern Ireland	9	1	1	11
	Great Britain ...	29	2	1	6
	Irish Republic ...	10	3	—	4
	Other	3	—	—	1
B.Sc., M.Sc. ...	Northern Ireland	33	6	3	138
	Great Britain ...	24	4	—	79
	Irish Republic ...	2	—	—	11
	Other	—	1	—	2
B.Com.Sc. or equivalent ...	Northern Ireland	13	—	1	1
Other degrees...	Northern Ireland	11	—	—	7
	Great Britain ...	—	1	—	9
	Irish Republic ...	3	—	—	—
	Other	—	—	—	5
Total		137	18	6	274

Source: Special enquiry

Note: The questionnaire was sent to all manufacturing and construction firms employing more than 200 persons and to a number of large commercial firms; 239 forms were sent out and 190 were returned including 96 " nil " returns.

TABLE 80

University graduates employed in central and local government* in Northern Ireland in 1964

Degree	University location	Present duties	
		Administration	Professional and technical
B.A., M.A. ...	Northern Ireland ...	54	49
	Great Britain	44	24
	Irish Republic	29	28
	Other	1	—
B.Sc., M.Sc. ...	Northern Ireland ...	44	209
	Great Britain	11	77
	Irish Republic	2	24
	Other	—	—
B.Com.Sc. or equivalent ...	Northern Ireland ...	29	1
Other degrees† ...	Northern Ireland ...	27	342
	Great Britain	7	97
	Irish Republic	2	56
	Other	—	4
Total		250	911

Source: Special enquiry

* All departments of the Northern Ireland Government, of the United Kingdom Government in Northern Ireland (Inland Revenue, Customs and Excise, General Post Office), of Belfast and Londonderry County Boroughs and of the six County Councils.

† Mainly in medicine and agriculture.

TABLE 81

Age distribution of the medical profession in Northern Ireland
31st December, 1963

Classification*	Men									Women									Total
	Under 30	30–39	40–49	50–54	55–59	60–64	65–69	70 and over	Total	Under 30	30–39	40–49	50–54	55–59	60–64	65–69	70 and over	Total	
Consultants	—	53	128	39	32	16	2	—	270	—	2	7	2	—	4	—	—	15	285
Senior hospital medical officers	1	10	11	3	2	5	—	—	32	—	4	3	3	2	2	—	—	14	46
Senior registrars	3	51	4	—	—	—	—	—	58	—	2	3	—	—	—	—	—	5	63
Junior hospital medical officers	2	11	7	3	2	4	2	—	31	3	4	12	1	1	3	—	—	24	55
Registrars	34	36	1	—	—	—	—	—	71	4	2	—	—	—	—	—	—	6	77
Senior house officers ...	80	38	4	—	—	—	—	—	122	22	12	4	1	2	—	—	—	41	163
House officers	50	20	—	—	—	—	—	—	70	15	1	—	—	—	—	—	—	16	86
General practitioners ...	37	179	254	84	70	62	27	13	726	4	20	29	12	9	10	5	—	89	815
Government service ...	—	2	8	3	3	4	1	—	21	—	1	—	—	—	—	—	—	1	22
Industrial	—	—	2	1	—	—	—	—	3	—	—	—	—	—	—	—	—	—	3
Local authority	—	11	16	15	4	5	3	—	54	—	5	4	2	—	2	—	—	13	67
Research	6	3	—	—	—	—	—	—	9	—	—	—	—	—	—	—	—	—	9
Unclassified																			40†
Total	213	414	435	148	113	96	35	13	1,467	48	53	62	21	14	21	5	—	224	1,731

Source: Ministry of Health and Local Government

* Principal employment.
† Estimate.

TABLE 82

Age distribution of the dental profession in Northern Ireland
31st December, 1963

Classification	Men									Women									Total
	Under 30	30–39	40–49	50–54	55–59	60–64	65–69	70 and over	Total	Under 30	30–39	40–49	50–54	55–59	60–64	65–69	70 and over	Total	
Consultants	—	3	7	2	1	2	1	—	16	—	—	—	—	—	—	—	—	—	16
Senior hospital medical officers	—	1	—	—	1	—	—	—	2	—	—	—	—	—	—	—	—	—	2
Senior registrars	—	2	1	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	3
Registrars	2	2	—	—	—	—	—	—	4	1	1	—	—	—	—	—	—	2	6
Senior house officers ...	1	2	—	—	—	—	—	—	3	—	—	2	—	—	—	—	—	2	5
General practitioners* ...	47	100	71	26	15	10	10	16	295	5	8	8	—	2	3	—	—	26	321
Local authority	3	12	20	1	4	3	—	—	43	5	3	5	1	1	—	—	—	15	58
Unclassified†																			51
Total	53	122	99	29	21	15	11	16	366	11	12	15	1	3	3	—	—	45	462

Source: Ministry of Health and Local Government

* Principals.

† Including assistants employed by principals in general practice.

TABLE 83

Medical auxiliary staff in post in Northern Ireland 31st December, 1963

Occupation	Number in post
Nurses	7,200
Almoners	29
Psychiatric social workers	10
Social welfare officers	107
Health visitors	271
Psychologists	9
Physiotherapists	115
Medical laboratory technicians	168
Pharmacists	57
Occupational therapists	21
Speech therapists	28
Chiropodists	3
Orthoptists	9
Radiographers	127
Therapeutic dietitians	18
Physicists	6
Physics technicians	7
Biochemists	4
Public health inspectors	175

Source: Ministry of Health and Local Government

TABLE 84

Occupational distribution of persons with scientific and technical qualifications, 1961

Occupation	Northern Ireland		Great Britain	
	Number	Percentage	Number	Percentage
Farmers, foresters, fishermen...	48	1·4	4,260	1·7
Miners and quarrymen	—	—	300	0·1
Craftsmen and production process workers...	30	0·9	1,980	0·8
Transport and communications workers ...	21	0·6	680	0·3
Warehousemen, etc.	1	—	140	0·1
Clerical workers	21	0·6	2,380	1·0
Sales workers	80	2·4	7,650	3·1
Services, sport and recreation workers ...	16	0·5	840	0·3
Administration and Managers:—				
M.Ps., senior central and local government officers	51	1·5	2,330	0·9
Company directors	—	—	150	0·1
Managers in engineering and allied trades	123	3·6	12,060	4·8
Managers in building and contracting ...	39	1·2	2,870	1·1
Managers in mining and production ...	112	3·3	7,970	3·2
Personnel managers...	—	—	450	0·2
Sales managers	18	0·5	3,130	1·3
Other managers	79	2·3	7,010	2·8
Professional and technical workers:—				
University teachers	157	4·6	6,750	2·7
Teachers	882	26·0	43,430	17·4
Civil engineers	507	14·9	16,800	6·7
Mechanical engineers	231	6·8	20,200	8·1
Electrical engineers	184	5·4	16,590	6·6
Technologists	112	3·3	22,160	8·9
Chemists, physical and biological scientists	340	10·0	31,660	12·7
Laboratory assistants and technicians ...	14	0·4	3,360	1·3
Technical and related workers	40	1·2	6,130	2·4
Electronic engineers	19	0·6	3,460	1·4
Other professional workers	238	7·0	20,040	8·0
Armed Forces	29	0·9	4,260	1·7
Inadequately described occupations	3	0·1	760	0·3
Total	3,395	100·0	249,800	100·0

Source: 1961 Population Census

Note: The Northern Ireland share of the United Kingdom pool of technically qualified persons is thus 1·3 per cent.; the population ratio is 2·7 per cent.

TABLE 85

Northern Ireland—Terminal education ages of persons by

Occupation order	15–19						20–24					
	Age at wh											
	Under 15	15	16	17–19	20 and over	Others*	Under 15	15	16	17–19	20 and over	
Males												
I. Farmers, foresters, fishermen ...	2,014	3,901	482	127	.	61	3,818	1,088	421	297	25	
II. Miners and quarrymen	51	54	3	1	.	—	91	22	6	—	—	
III. Gas, coke and chemicals makers	6	11	2	2	.	—	69	18	18	24	1	
IV. Glass and ceramics makers ...	19	52	11	3	.	—	91	18	10	11	—	
V. Furnace, forge, foundry, rolling mill workers	46	78	6	—	.	2	132	23	6	—	1	
VI. Electrical and electronic workers	274	980	414	82	.	22	440	382	407	158	10	
VII. Engineering and allied trades workers not elsewhere classified	1,516	3,825	938	98	.	83	3,137	1,127	808	166	12	
VIII. Woodworkers	538	1,539	252	26	.	20	891	393	201	34	1	
IX. Leather workers	72	133	14	1	.	1	117	25	8	1	1	
X. Textile workers	532	1,056	79	19	.	21	895	183	52	44	—	
XI. Clothing workers	162	391	45	9	.	13	259	90	26	9	—	
XII. Food, drink and tobacco workers	466	867	73	21	.	21	830	229	96	30	6	
XIII. Paper and printing workers ...	119	311	32	14	.	4	198	97	56	37	3	
XIV. Makers of other products ...	91	177	29	2	.	2	164	45	18	11	1	
XV. Construction workers	374	829	83	11	.	11	876	235	78	13	1	
XVI. Painters and decorators	249	541	53	1	.	9	474	132	40	5	—	
XVII. Drivers of stationary engines, cranes, etc.	64	111	3	—	.	1	251	41	15	4	—	
XVIII. Labourers not elsewhere classified	1,947	2,682	193	16	.	90	4,273	736	147	32	—	
XIX. Transport and communications workers	826	2,349	165	32	.	56	1,958	548	258	104	3	
XX. Warehousemen, storekeepers, packers, bottlers	404	991	165	27	.	24	659	204	112	66	5	
XXI. Clerical workers	182	864	578	650	.	13	318	331	480	1,236	45	
XXII. Sales workers	795	2,117	474	175	.	55	1,320	706	543	544	40	
XXIII. Service, sport and recreation workers	499	980	159	76	.	23	1,115	468	304	311	16	
XXIV. Administrators and managers ...	2	2	11	27	.	2	23	20	41	147	36	
XXV. Professional, technical workers, artists	41	186	219	422	.	15	164	243	450	873	892	
XXVI. Armed Forces	200	621	154	61	.	8	356	1,891	386	310	45	
XXVII. Inadequately described occupations	199	1,361	167	55	.	80	151	41	31	24	15	
Persons economically inactive ...	97	177	31	8	.	13,878	234	56	29	13	1	
Total	11,785	27,186	4,835	1,966	.	14,515	23,304	9,392	5,047	4,504	1,160	

Source: 1961 Population Census

*Includes persons whose terminal education age was not stated and persons

s by sex, age and occupation, 1961

	Age group											
	25–44						45 and over					
	at which full-time education ceased											
and ver	Others*	Under 15	15	16	17–19	20 and over	Others*	Under 15	15	16	17–19	20 and over	Others*
25	121	21,038	2,501	1,090	733	142	742	31,821	2,505	1,122	603	131	1,248
—	3	458	23	9	3	1	15	565	14	6	2	—	9
1	7	685	81	46	39	4	21	385	20	16	12	8	9
—	4	369	39	18	9	1	16	153	12	1	1	1	6
1	5	659	40	22	7	1	22	975	30	15	3	1	26
10	33	2,548	667	673	288	30	112	1,243	237	245	114	17	49
12	121	14,628	2,019	1,168	296	37	464	10,936	872	582	183	17	348
1	43	3,914	688	353	77	8	152	3,310	312	145	32	2	136
1	6	425	43	29	4	—	16	548	34	22	7	—	27
—	28	2,608	286	106	63	7	74	2,676	123	59	25	3	97
—	6	703	76	60	31	1	22	880	78	49	21	6	29
6	22	3,012	344	185	105	12	132	2,444	203	116	68	4	80
3	9	605	145	93	44	4	24	600	75	41	17	3	19
1	5	738	105	66	25	1	25	416	42	27	21	3	15
1	36	4,754	542	205	116	16	186	4,206	317	180	95	14	139
—	11	2,113	226	79	27	3	87	1,900	113	61	15	1	70
—	9	2,110	166	39	16	—	78	2,062	93	39	11	—	72
—	163	17,564	1,033	361	63	2	664	20,222	617	252	49	6	802
3	105	13,187	1,454	649	300	32	559	10,620	750	406	172	27	473
5	16	2,762	380	239	142	9	90	3,010	285	169	77	2	105
45	35	2,605	1,120	1,382	2,359	167	121	3,151	934	956	1,052	144	194
40	61	7,732	2,303	2,061	2,130	378	433	8,245	2,009	1,805	1,505	197	493
16	44	5,423	1,095	855	790	91	224	7,380	770	562	380	73	354
36	5	693	370	552	1,037	396	63	1,223	511	724	1,240	356	107
892	67	1,442	899	1,256	2,021	6,061	188	1,208	514	732	1,050	3,738	193
45	19	941	530	301	357	95	40	121	36	27	49	24	4
15	79	353	40	25	13	5	545	415	28	12	10	3	740
1	2,405	753	87	69	36	2	878	38,173	2,662	1,940	1,403	1,012	3,488
,160	3,468	114,822	17,302	11,991	11,131	7,506	5,993	158,888	14,196	10,311	8,217	5,793	9,332

persons whose full-time education has not yet ceased.

Occupation order	15–19								
	Under 15	15	16	17–19	20 and over	Others*	Under 15	15	16
Females									
I. Farmers, foresters, fisherwomen	19	50	15	8	.	4	43	31	12
II. Miners and quarrywomen ...	—	—	—	—	.	—	—	—	1
III. Gas, coke and chemicals makers	13	9	1	—	.	1	14	3	
IV. Glass and ceramics makers ..	28	41	7	1	.	—	96	17	18
V. Furnace, forge, foundry, rolling mill workers	3	—	—	—	.	—	4	—	
VI. Electrical and electronic workers	58	120	2	1	.	1	149	42	9
VII. Engineering and allied trades workers not elsewhere classified	71	84	3	—	.	3	181	36	12
VIII. Woodworkers	3	5	—	—	.	—	2	—	1
IX. Leather workers	97	173	7	2	.	3	123	22	9
X. Textile workers	1,526	2,100	117	13	.	79	2,269	324	103
XI. Clothing workers	3,279	5,993	226	15	.	154	4,141	637	[illegible]
XII. Food, drink and tobacco workers	733	964	66	9	.	28	1,086	202	[illegible]
XIII. Paper and printing workers ...	249	420	11	2	.	11	337	52	17
XIV. Makers of other products ...	131	231	13	4	.	6	226	27	10
XV. Construction workers	—	—	—	—	.	—	—	—	—
XVI. Painters and decorators ...	2	5	—	—	.	—	11	2	1
XVII. Drivers of stationary engines, cranes, etc.	—	1	—	—	.	—	1	—	1
XVIII. Labourers not elsewhere classified	59	89	7	—	.	4	81	17	2
XIX. Transport and communications workers	28	163	71	32	.	6	66	75	79
XX. Warehousewomen, storekeepers, packers, bottlers	641	1,183	78	8	.	25	914	150	54
XXI. Clerical workers	795	4,048	3,318	1,608	.	99	1,217	1,826	2,[illegible]
XXII. Sales workers	1,181	3,628	569	115	.	45	1,602	741	[illegible]
XXIII. Service, sport and recreation workers	1,300	2,438	360	94	.	69	2,003	646	282
XXIV. Administrators and managerresses	...	—	—	—	.	—	4	—	1
XXV. Professional, technical workers, artists	144	298	431	707	.	34	246	340	569
XXVI. Armed Forces	13	51	17	20	.	—	10	47	16
XXVII. Inadequately described occupations	63	559	64	49	.	42	49	15	[illegible]
Persons economically inactive ...	1,289	1,692	396	118	.	14,681	8,825	2,413	1,[illegible]
Total	11,725	24,345	5,779	2,806	.	15,295	23,700	7,665	5,[illegible]

Source: 1961 Population Census

*Includes persons whose terminal education age [illegible]

TABLE 85—*continued*

Age group															
20–24				25–44						45 and over					
Age at which full-time education ceased															
16	17–19	20 and over	Others*	Under 15	15	16	17–19	20 and over	Others*	Under 15	15	16	17–19	20 and over	Others*
12	25	6	4	327	79	55	65	11	20	1,737	256	123	155	37	88
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	40	2	—	1	—	1	3	—	1	—	—	—
18	2	—	1	150	33	9	1	—	5	29	1	2	—	—	1
—	—	—	—	13	—	—	—	—	—	2	1	—	—	—	—
9	3	—	6	387	33	14	4	—	18	58	8	3	1	—	2
12	4	—	5	469	40	15	8	—	17	106	7	7	1	—	5
1	—	—	—	25	—	2	—	—	1	12	2	1	—	—	—
9	2	—	1	149	23	3	1	—	12	61	4	1	—	—	4
103	19	—	91	6,719	344	105	16	—	223	5,941	155	44	14	—	225
168	32	1	124	6,952	536	199	60	3	234	6,102	381	159	61	7	231
83	19	1	41	1,716	156	60	20	5	66	810	51	21	13	1	38
17	6	—	11	484	36	9	6	—	10	333	26	7	2	1	12
10	6	—	6	560	45	25	5	1	20	195	7	5	4	—	8
—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—
1	—	—	—	35	3	—	2	—	1	14	1	—	—	—	—
1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—
2	2	—	6	232	12	4	3	—	14	184	4	1	1	—	13
79	56	2	5	152	119	134	107	4	15	74	23	31	27	2	3
54	19	—	30	1,709	151	77	25	3	62	946	73	25	7	—	37
2,474	2,382	49	122	2,314	2,014	2,984	3,063	185	246	1,152	657	955	1,296	139	181
467	235	7	52	3,879	1,015	757	520	44	172	3,702	899	726	541	84	245
282	221	25	111	9,778	1,256	695	479	99	421	13,370	1,191	845	694	• 82	696
1	4	4	—	25	21	27	58	29	4	79	33	45	81	37	13
569	1,414	1,497	108	772	529	841	1,856	3,691	184	554	308	426	1,119	2,373	204
16	17	1	—	17	7	8	21	3	1	8	2	2	4	1	—
7	5	2	34	115	10	10	12	5	238	80	3	3	2	1	174
1,389	1,025	127	1,749	77,755	13,006	10,410	9,573	2,271	4,046	139,868	14,849	11,626	12,630	3,387	10,050
5,785	5,498	1,722	2,507	114,776	19,470	16,443	15,906	6,354	6,031	175,420	18,942	15,060	16,653	6,152	12,230

was not stated and persons whose full-time education has not yet ceased.

TABLE 86

University and further education (major) scholarships held 1957/58–1963/64

Academic year	University Scholarships						Further education (major) scholarships					
	Northern Ireland	England and Wales	Scotland	Irish Republic	Overseas	Total	Northern Ireland	England and Wales	Scotland	Irish Republic	Overseas	Total
1957/58	914	32	12	75	—	1,033	42	30	5	2	—	79
1958/59	1,086	42	19	94	—	1,241	55	41	7	1	—	104
1959/60	1,332	49	21	93	—	1,495	63	43	16	1	—	123
1960/61	1,568	60	26	121	—	1,775	81	47	13	1	—	142
1961/62	2,734	93	47	266	—	3,140	121	80	30	4	1	236
1962/63	2,900	116	51	369	—	3,436	167	79	28	5	1	280
1963/64	3,160	128	66	484	—	3,838	230	99	41	4	2	376

Source: Ministry of Education

TABLE 87

Analysis of 1962/63 scholarship holders, by income of father

Percentage

Gross income of father	Scholarship		
	University	Teacher training	Further education
Under £500	16·8	23·0	22·6
£500—£999	34·9	48·1	31·6
£1,000—£1,499	22·8	18·2	22·4
£1,500—£1,999	10·9	6·3	10·8
£2,000—£2,499	6·1	1·8	5·5
£2,500—£2,999	3·8	1·2	2·6
£3,000 and over	4·7	1·4	4·5
Total	100	100	100
Numbers (=100%)	3,221*	1,654	380
Not available	412*	332	82

Source: Ministry of Education

* Includes suspended awards.

TABLE 88

Analysis of 1962/63 university scholarship holders, by income of father and area

Percentage

Gross income of father	Area								
	Belfast County Borough	Londonderry County Borough	County Antrim	County Armagh	County Down	County Fermanagh	County Londonderry	County Tyrone	Northern Ireland
Under £500	13·6	18·0	14·3	27·1	15·4	21·3	19·2	27·2	16·8
£500–£999	37·1	36·9	36·5	31·9	33·9	27·0	27·3	35·8	34·9
£1,000–£1,499	20·8	26·2	25·1	20·5	23·4	23·6	29·8	16·9	22·8
£1,500–£1,999	11·2	9·0	11·1	8·8	10·4	13·5	13·5	9·9	10·9
£2,000–£2,499	7·3	1·8	5·2	3·9	8·1	9·0	2·8	4·9	6·1
£2,500–£2,999	3·6	5·4	4·0	3·9	5·0	4·5	2·1	1·6	3·8
£3,000 and over ...	6·4	2·7	3·8	3·9	3·8	1·1	5·3	3·7	4·7
Total	100	100	100	100	100	100	100	100	100
Numbers (=100%)* ...	1,069	111	657	229	578	89	245	243	3,221
Not available*	99	10	99	15	118	2	52	17	412

Source: Ministry of Education

* Includes suspended awards.

TABLE 89

Analysis of 1962/63 university scholarship holders, by gross parental income and area

Percentage

Gross parental income	Area								
	Belfast County Borough	Londonderry County Borough	County Antrim	County Armagh	County Down	County Fermanagh	County Londonderry	County Tyrone	Northern Ireland
Under £500	10·0	16·2	11·0	17·0	10·3	19·3	13·5	18·9	12·4
£500–£999	32·3	37·0	33·5	32·8	33·0	23·9	27·4	35·2	32·4
£1,000–£1,499	23·1	23·4	24·7	18·3	22·2	22·7	22·8	16·0	22·3
£1,500–£1,999	10·8	8·1	14·1	10·0	13·0	9·1	15·5	11·9	12·1
£2,000–£2,499	8·2	6·3	7·0	7·9	8·8	14·8	9·0	5·7	8·0
£2,500–£2,999	6·3	6·3	4·5	6·6	6·2	9·1	5·3	7·0	6·0
£3,000 and over ...	9·3	2·7	5·2	7·4	6·5	1·1	6·5	5·3	6·8
Total	100	100	100	100	100	100	100	100	100
Numbers (=100%)* ...	1,069	111	657	229	578	89	245	243	3,221
Not available*	99	10	99	15	118	2	52	17	412

Source: Ministry of Education

* Includes suspended awards.

TABLE 90

Analysis of 1962/63 scholarship holders, by social class of father

Percentage

Social class of father	Scholarship		
	University	Teacher training	Further education
Higher professional	14·2	5·0	10·5
Managerial and other professional	46·5	42·9	46·6
Clerical and skilled manual ...	32·2	38·7	32·0
Semi-skilled	4·5	8·2	6·8
Unskilled	2·6	5·2	4·1
Total	100	100	100
Numbers (=100%)	3,251*	1,755	369
Not available	382*	231	93

Source: Ministry of Education
*Includes suspended awards.

Note: The classification of father's occupation is based on the Registrar General's classification of Social Class (see Classification of Occupations, H.M.S.O., 1960) as follows :

Survey classification	*R.G.'s Social Class*
Higher Professional	I
Managerial and other professional	II
Clerical	III Non-manual
Skilled manual	III Manual
Semi-skilled	IV
Unskilled	V

The definitions of these categories are set out below.

Higher professional (R.G.'s Class I) includes such persons as lawyers, doctors, engineers, accountants and university teachers.

Managerial and other professional (R.G.'s Class II) consists mainly of administrators, higher executives, business proprietors (including shopkeepers), school teachers and technicians.

Clerical (R.G.'s Class III Non-manual) includes all office workers not included above, together with certain others such as shop assistants.

Skilled manual (R.G.'s Class III Manual) includes mainly manual workers whose occupations have a period of training or apprenticeship.

Semi-skilled or unskilled (R.G.'s Classes IV and V) includes those in all other occupations, a few of whom are in non-manual occupations.

TABLE 91

Queen's University, Belfast

Analysis of full-time entrants, by social class of father
1950/51 –1963/64

Percentage

Social class of father	Year of entry				
	1950/51	1957/58	1961/62	1962/63	1963/64
Higher professional	15·8	14·7	13·2	13·0	14·5
Managerial and other professional	43·8	42·3	41·2	41·3	35·2
Clerical	18·9	19·1	16·7	18·3	22·1
Skilled manual...	15·6	15·4	20·4	21·3	21·4
Semi-skilled	3·1	4·5	5·0	3·5	3·5
Unskilled	2·8	4·0	3·5	2·6	3·3
Total	100	100	100	100	100
Numbers (= 100%)	493	669	1,086	825	916
Not available	68	98	140	100	139

Source: Queen's University, Belfast

TABLE 92

Queen's University, Belfast

Analysis of full-time entrants in 1950/51, by faculty and social class of father

Percentage

Social class of father	Arts	Science	Applied Science	Medicine (including Dentistry)	Economics, Law and Agriculture
Higher professional	6·5	15·7	8·3	32·3	24·3
Managerial and other professional	47·1	38·2	44·4	39·6	48·5
Clerical	21·8	25·8	18·1	12·5	12·1
Skilled manual	17·6	14·6	22·2	12·5	9·1
Semi-skilled	3·5	3·4	2·8	2·1	3·0
Unskilled	3·5	2·3	4·2	1·0	3·0
Total	100	100	100	100	100
Numbers (=100%)...	170	89	72	96	66
Not available	27	7	13	13	8

Source: Queen's University, Belfast

TABLE 93

Queen's University, Belfast

Analysis of full-time entrants in 1957/58, by faculty and social class of father

Percentage

Social class of father	Arts	Science	Applied Science	Medicine (including Dentistry)	Economics, Law and Agriculture
Higher professional	8·7	10·0	17·3	34·0	12·6
Managerial and other professional	40·2	38·5	46·4	43·3	46·6
Clerical	22·7	26·9	15·4	9·3	14·6
Skilled manual	18·3	13·8	17·3	6·2	17·5
Semi-skilled	5·7	5·4	3·6	2·1	3·9
Unskilled	4·4	5·4	—	5·1	4·8
Total	100	100	100	100	100
Numbers (=100%)...	229	130	110	97	103
Not available	29	15	10	12	32

Source: Queen's University, Belfast

TABLE 94

Queen's University, Belfast

Analysis of full-time entrants in 1963/64, by faculty and social class of father

Percentage

Social class of father	Arts	Science	Applied Science	Medicine (including Dentistry)	Economics, Law and Agriculture
Higher professional	8·4	14·5	12·8	35·1	16·5
Managerial and other professional	32·5	35·7	32·0	36·1	45·2
Clerical	25·7	23·2	16·8	17·5	21·7
Skilled manual	22·8	20·8	31·4	10·3	13·1
Semi-skilled	5·1	2·4	3·5	1·0	3·5
Unskilled	5·5	3·4	3·5	—	—
Total	100	100	100	100	100
Numbers (=100%)...	323	207	173	103	110
Not available	53	25	30	13	18

Source: Queen's University, Belfast

TABLE 95

Postgraduate Studentships held
1957/58—1963/64

Academic year	Northern Ireland		England and Wales		Scotland		Irish Republic		Overseas		Total	
	Science	Arts	Science	Arts	Science	Arts	Science	Arts	Science	Arts	Science	Arts
1957/58	16	4	13	3	1	—	1	—	1	—	32	7
1958/59	27	2	13	4	2	—	—	—	—	1	42	7
1959/60	32	2	9	8	—	—	1	—	—	—	42	10
1960/61	39	4	10	7	—	—	1	—	—	2	50	13
1961/62	35	9	13	5	—	1	1	—	—	1	49	16
1962/63	58	9	20	13	—	2	—	2	—	—	78	26
1963/64	68	14	18	16	2	2	—	2	—	—	88	34

Source: Ministry of Education

NOTE: This table does not include awards of nil value.

TABLE 96

Northern Ireland—Sectoral distribution of total civil employment*

1949–1963

Percentage

Classification	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	*Great Britain 1963*
Agriculture†	18·9	18·5	17·4	17·4	17·1	16·6	16·2	16·1	15·7	15·4	14·8	14·5	13·5	13·5	13·0	*3·5*
Industry‡	36·3	36·8	37·6	36·3	37·5	38·0	37·4	37·9	37·9	37·0	36·3	36·7	35·6	34·8	34·0	*41·0*
Construction	6·3	6·4	6·6	7·0	6·8	7·0	7·0	6·9	7·0	7·0	7·9	7·3	8·0	8·2	8·4	*7·1*
Distribution	12·1	12·3	12·2	12·6	12·3	12·5	12·9	12·8	12·9	13·1	12·9	13·0	13·4	13·3	13·6	*14·1*
Other services	26·4	26·0	26·2	26·7	26·3	25·9	26·5	26·3	26·5	27·5	28·1	28·5	29·5	30·2	31·0	*34·3*

Source: Ministry of Labour and National Insurance

* Figures for the years prior to 1959 have been adjusted as far as possible to take account of the change in the Standard Industrial Classification. Figures taken in June each year.

† Including forestry and fishing.

‡ Including mining, quarrying and public utilities (gas, electricity and water).

TABLE 97

Central government expenditure on Queen's University and Magee University College 1956/57—1964/65

£000s

Financial year	Queen's University		Magee University College	
	Current*	Capital	Current*	Capital
1956–57	467·0	600·0	30·8	4·0
1957–58	533·6	588·2	38·0	—
1958–59	614·0	636·0	38·0	7·5
1959–60	685·0	325·0	38·0	3·5
1960–61	876·8	670·0	42·7	2·3
1961–62	984·5	450·0	45·0	—
1962–63	1,042·3	985·0	46·0	—
1963–64	1,308·3	1,647·5	62·9	11·7
1964–65†	1,468·0	2,400·0	83·7	15·0

Source: Ministry of Finance

*Includes annual statutory grants of £60,000 for Queen's University and £2,500 for Magee University College. In addition to the direct grants shown in the table above about £200,000 per annum of the grant at present being paid by the Ministry of Education towards expenditure by local education authorities on the provision of university scholarships is attributable to tuition fees charged by Queen's University and Magee University College.

†Estimate.

TABLE 98

Central government expenditure on general training colleges 1956/57—1964/65

£000s

Financial year	Stranmillis College		St. Joseph's Training College		St. Mary's Training College	
	Current*	Capital (100%)	Current*	Capital (65%)	Current*	Capital (65%)
1956/57	73·6	7·1	—	—	30·9	26·5
1957/58	70·4	0·8	—	—	37·3	42·4
1958/59	78·0	1·5	—	29·2	39·7	35·3
1959/60	91·5	20·6	—	66·8	43·5	4·3
1960/61	102·6	18·9	—	38·2	49·6	—
1961/62	133·1	8·3	—	34·0	67·9	15·6
1962/63	146·6	39·6	25·2	1·7	52·8	0·5
1963/64	204·7	12·5	41·8	14·2	54·4	2·6
1964/65†	226·4	46·9	46·3	21·0	53·8	6·5

Source: Ministry of Education

*The Ministry of Education also provides indirectly about £50,000 per annum towards current expenditure at Stranmillis College by way of Training Scholarship grants to meet the nominal tuition fee of £50 which is payable by the student. The comparable figures for St. Joseph's and St. Mary's Training Colleges are £15,000 and £20,000 per annum respectively.

†Estimate.

TABLE 99

Central government expenditure on Loughry Agricultural College 1956/57—1964/65

£000s

Financial year	Current*	Capital*
1956/57	63·6	18·6
1957/58	67·3	18·1
1958/59	76·6	37·7
1959/60	76·3	46·7
1960/61	87·3	29·4
1961/62	91·3	35·2
1962/63	105·8	91·7
1963/64	120·1	108·3
1964/65†	142·7	6·2

Source: Ministry of Agriculture

*Approximately one-third of this expenditure may be allocated to teaching and two-thirds to applied research carried out to complement the work of the agricultural advisory service. Of the portion allocated to teaching the proportion that might be attributed to higher education would vary from about 50 per cent in 1956/57 to over 70 per cent in 1963/64 and thereafter.

† Estimate

TABLE 100

Central government expenditure on the Agricultural Research Divisions of the Ministry of Agriculture 1956/57—1964/65

£000s

Financial year	Current*	Capital*
1956/57	181·7	22·8
1957/58	199·5	6·9
1958/59	215·7	13·2
1959/60	235·7	3·1
1960/61	295·4	8·0
1961/62	319·1	71·8
1962/63	359·8	9·6
1963/64	411·2	49·9
1964/65†	433·0	130·0

Source: Ministry of Agriculture

* On average about 11 per cent. of this expenditure may be allocated to University teaching, 39 per cent. to research and 50 per cent. to advisory and other agricultural laboratory services.

† Estimate.

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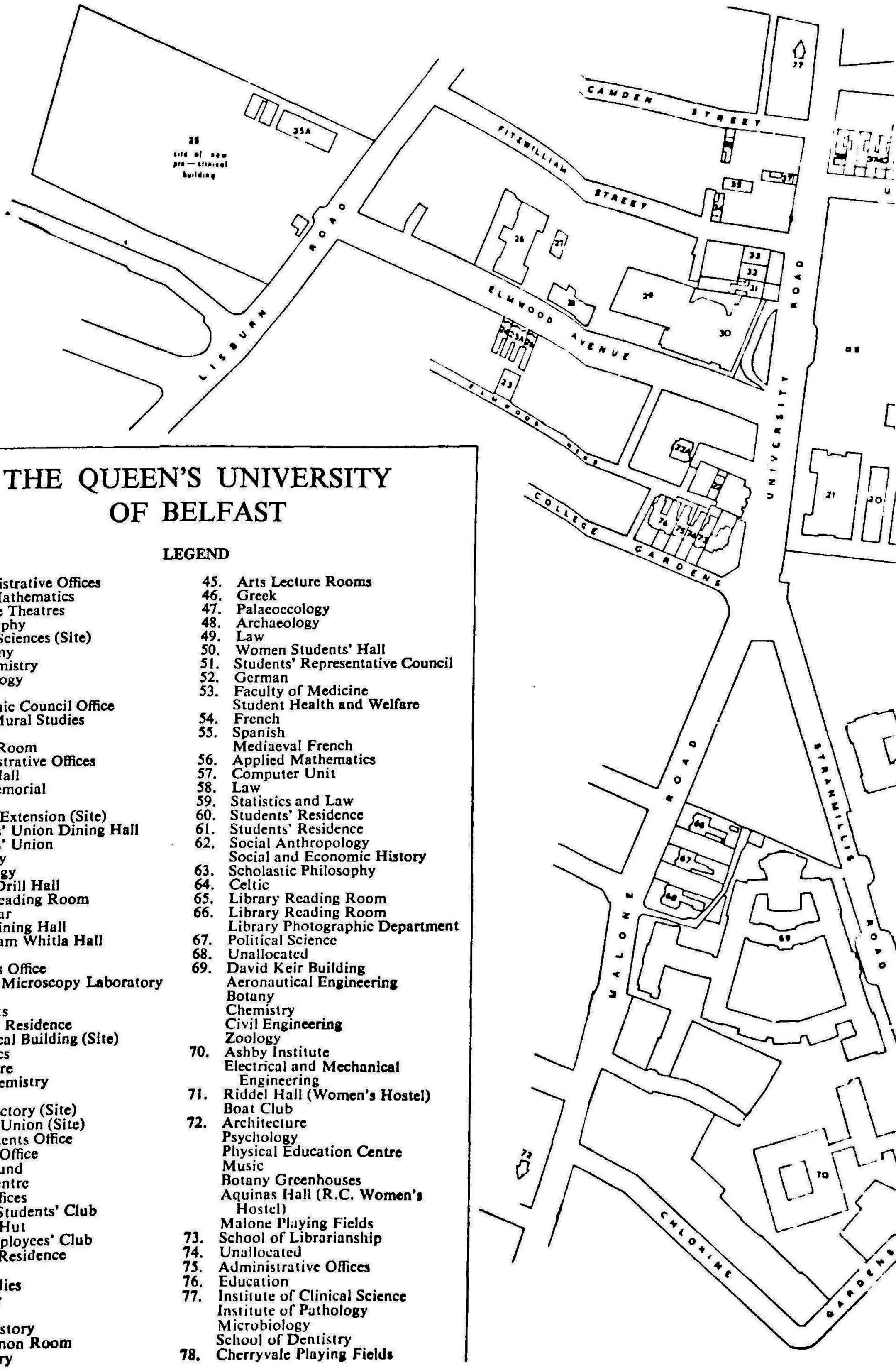


LEGEND

1. Administrative Offices
2. Pure Mathematics
3. Lecture Theatres
4. Geography
5. Social Sciences (Site)
6. Anatomy
   Biochemistry
   Physiology
7. Physics
8. Academic Council Office
   Extra-Mural Studies
   History
   Senate Room
9. Administrative Offices
10. Great Hall
11. War Memorial
12. Library
13. Library Extension (Site)
14. Students' Union Dining Hall
15. Students' Union
16. Dentistry
17. Physiology
18. O.T.C. Drill Hall
19. South Reading Room

19*a*. Snack Bar

20. South Dining Hall
21. Sir William Whitla Hall
22. Latin

22*a*. Buildings Office

23. Electron Microscopy Laboratory (Site)

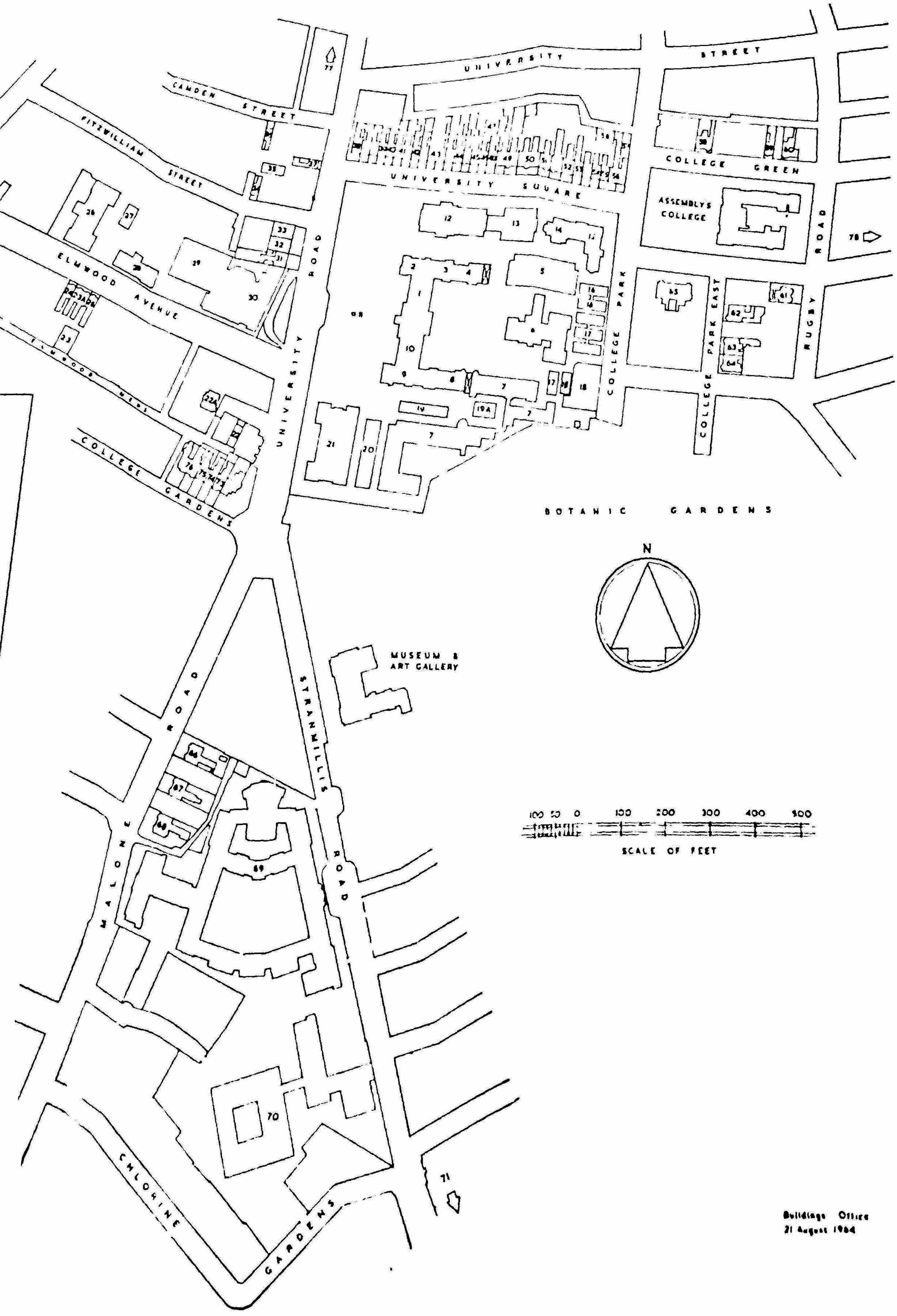
23*a*. Staff Flats

24. Students' Residence
25. Pre-Clinical Building (Site)

25*a*. Economics

26. Agriculture
27. Dairy Chemistry
28. Geology
29. New Refectory (Site)
30. Students' Union (Site)
31. Appointments Office
    Catering Office
    Games Fund
32. Typing Centre
33. Deans' Offices
34. Research Students' Club
35. Dramatic Hut
36. Senior Employees' Club
37. Students' Residence
38. English
39. Social Studies
40. Philosophy
41. History
42. Ancient History
43. Staff Common Room
44. Biochemistry
45. Arts Lecture Rooms
46. Greek
47. Palaeoccology
48. Archaeology
49. Law
50. Women Students' Hall
51. Students' Representative Council
52. German
53. Faculty of Medicine
    Student Health and Welfare
54. French
55. Spanish
    Mediaeval French
56. Applied Mathematics
57. Computer Unit
58. Law
59. Statistics and Law
60. Students' Residence
61. Students' Residence
62. Social Anthropology
    Social and Economic History
63. Scholastic Philosophy
64. Celtic
65. Library Reading Room
66. Library Reading Room
    Library Photographic Department
67. Political Science
68. Unallocated
69. David Keir Building
    Aeronautical Engineering
    Botany
    Chemistry
    Civil Engineering
    Zoology
70. Ashby Institute
    Electrical and Mechanical Engineering
71. Riddel Hall (Women's Hostel)
    Boat Club
72. Architecture
    Psychology
    Physical Education Centre
    Music
    Botany Greenhouses
    Aquinas Hall (R.C. Women's Hostel)
    Malone Playing Fields
73. School of Librarianship
74. Unallocated
75. Administrative Offices
76. Education
77. Institute of Clinical Science
    Institute of Pathology
    Microbiology
    School of Dentistry
78. Cherryvale Playing Fields

MAP A



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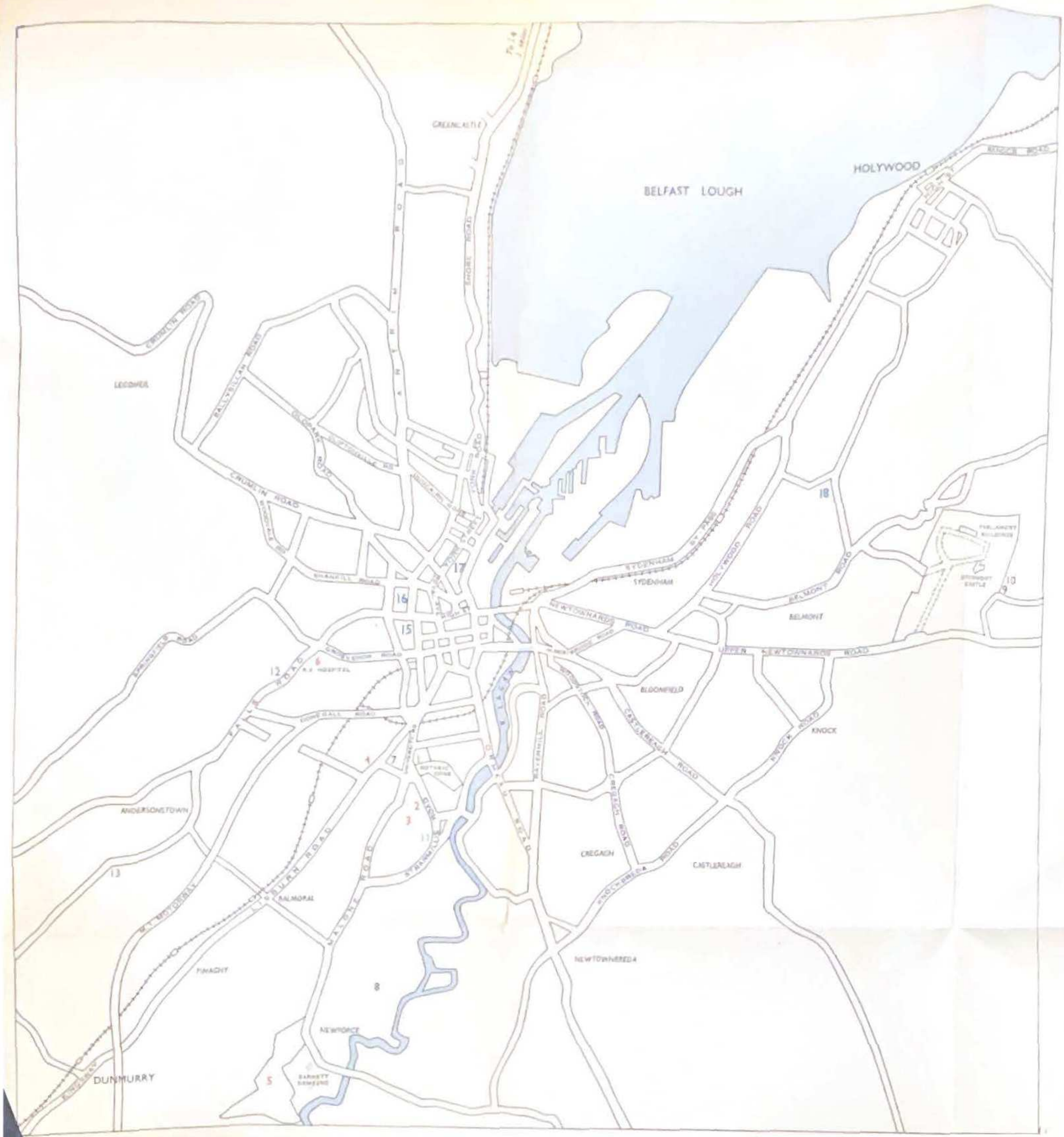
MAP B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